S/M No. : CN001C-010

Service Manual

Color Television

CHASSIS : CN-001C

Model : DTQ-14J4FC (B13A02D)
DTQ-14J4FCA (B13103D)
DTQ-14J4FCC (B113A01L)
DTQ-20J4FC (B19A02D)

✔ Caution

: In this Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information,please refer to PPL(Parts Price List) in Service Information Center (http://svc.dwe.co.kr).

DAEWOO ELECTRONICS CO., LTD

http : //svc.dwe.co.kr Nov. 2000

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PRODUCT SAFETY SERVICING GUIDELINES FOR AUDIO - VIDEO PRODUCTS

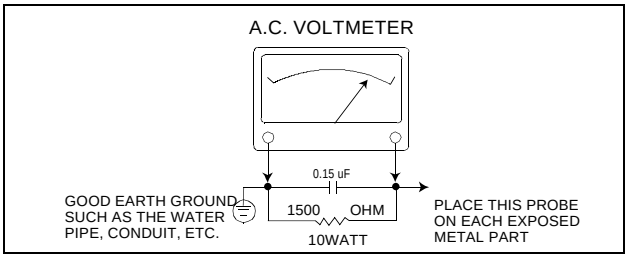
CAUTION : DO NOT ATTEMPT TO MODIFY THIS PRODUCT IN ANY WAY. NEVER PERFORM CUSTOMIZED INSTALLATIONS WITHOUT MANUFACTURER'S APPROVAL. UNAUTHORIZED MODIFICATIONS WILL NOT ONLY VOID THE WARRANTY, BUT MAY LEAD TO YOUR BEING LIABLE FOR ANT RESULTING PROPERTY DAMAGE OR USER INJURY.
SERVICE WORK SHOULD BE PERFORMED ONLY AFTER YOU ARE THOROUGHLY FAMILIAR WITH ALL OF THE FOLLOWING SAFETY CHECKS AND SERVICING GUIDELINES. TO DO OTHERWISE, INCREASES THE RISK OF POTENTIAL HAZARDS AND INJURY TO THE USER.
WHILE SERVICING, USE AN ISOLATION TRANSFORMER FOR PROTECTION FROM A.C. LINE SHOCK.

SAFETY CHECKS

AFTER THE ORIGINAL SERVICE PROBLEM HAS BEEN CORRECTED, A CHECK SHOULD BE MADE OF THE FOLLOWING:

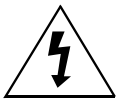
SUBJECT:FIRE & SHOCK HAZARD

1. BE SURE THAT ALL COMPONENTS ARE POSITIONED IN SUCH A WAY AS TO AVOID POSSIBILITY OF ADJACENT COMPONENT SHORTS. THIS IS ESPECIALLY IMPORTANT ON THOSE MODULES WHICH ARE TRANSPORTED TO AND FROM THE REPAIR SHOP.
2. NEVER RELEASE A REPAIR UNLESS ALL PROTECTIVE DEVICES SUCH AS INSULATORS, BARRIERS, COVERS, SHIELDS, STRAIN RELIEFS, POWER SUPPLY CORDS, AND OTHER HARDWARE HAVE BEEN REINSTALLED PER ORIGINAL DESIGN. BE SURE, THAT THE SAFETY PURPOSE OF THE POLARIZED LINE PLUG HAS NOT BEEN DEFEATED.
3. SOLDERING MUST BE INSPECTED TO DISCOVER POSSIBLE COLD SOLDER JOINTS, SOLDER SPLASHES OF SHARP SOLDER POINTS. BE CERTAIN TO REMOVE ALL LOOSE FOREIGN PARTICLES.
4. CHECK FOR PHYSICAL EVIDENCE OF DAMAGE OR DETERIORATION TO PARTS AND COMPONENTS, FOR FRAYED LEADS, DAMAGED INSULATION (INCLUDING A.C. CORD), AND REPLACE IF NECESSARY. FOLLOW ORIGINAL LAYOUT, LEAD LENGTH AND DRESS.
5. NO LEAD OR COMPONENT SHOULD TOUCH A RECEIVING TUBE OR A RESISTOR RATED AT 1 WATT OR MORE. LEAD TENSION AROUND PROTRUDING METAL SURFACES MUST BE AVOIDED.
6. ALL CRITICAL COMPONENTS SUCH AS FUSES, FLAMEPROOF RESISTOR, CAPACITORS, ETC. MUST BE REPLACED WITH EXACT FACTORY TYPES. DO NOT USE REPLACEMENT COMPONENTS OTHER THAN THOSE SPECIFIED OR MAKE UNRECOMMENDED CIRCUIT MODIFICATIONS.
7. AFTER RE-ASSEMBLY OF THE STE ALWAYS PERFORM AN A.C. LEAKAGE TEST ON ALL EXPOSED METALLIC PARTS OF THE CABINET. (THE CHANNEL SELECTOR KNOB, ANTENNA TERMINALS, HANDLE AND SCREWS) TO BE SURE THE SET IS SAFE TO OPERATE WITHOUT DANGER OF ELECTRICAL SHOCK. DO NOT USE A LINE ISOLATION TRANSFORMER DURING THIS TEST USE AN A.C. VOLTMETER, HAVING 5000 OHMS PER VOLT OR MORE SENSITIVITY, IN THE FOLLOWING MANNER : CONNECT A 1500 OHM 10 WATT RESISTOR, PARALLELED BY A .15 MFD. 150V A.C. TYPE CAPACITOR BETWEEN A KNOWN GOOD EARTH GROUND (WATER POPE, CONDUIT, ETC.) AND THE EXPOSED METALLIC PARTS, ONE AT A TIME. MEASURE THE A.C. VOLTAGE ACROSS THE COMBINATION OF 1500 OHM RESISTOR AND .15 MFD CAPACITOR. REVERSE THE A.C. PLUG AND REPEAT A.C. VOLTAGE MEASUREMENTS FOR EACH EXPOSED METALLIC PART. VOLTAGE MEASURED MUST NOT EXCEED .75 VOLTS R.M.S THIS CORRESPONDS TO 0.5 MILLIAMP A.C. NAY VALUE EXCEEDING THIS LIMIT CONSTITUTES A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED IMMEDIATELY.


A.C. VOLTMETER
0.15 uF
GOOD EARTH GROUND SUCH AS THE WATER PIPE, CONDUIT, ETC.
1500 OHM
10WATT
PLACE THIS PROBE ON EACH EXPOSED METAL PART

SUBJECT : GRAPHIC SYMBOLS

THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.



THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF IMPORTANT SAFETY INFORMATION ON SERVICE LITERATURE.

SUBJECT : X-RADIATION

1. BE SURE PROCEDURES AND INSTRUCTIONS TO ALL SERVICE PERSONNEL COVER THE SUBJECT OF X-RADIATION. THE ONLY POTENTIAL SOURCE OF X-RAYS IN CURRENT T.V. RECEIVERS IS THE PICTURE TUBE. HOWEVER, THIS TUBE DOES NOT EMIT X-RAYS WHEN THE HIGH VOLTAGE IS AT THE FACTORY SPECIFIED LEVEL. THE PROPER VALUE IS GIVEN IN THE APPLICABLE SCHEMATIC. OPERATION AT HIGHER VOLTAGES MAY CAUSE A FAILURE OF THE PICTURE TUBE OR HIGH VOLTAGE SUPPLY AND UNDER CERTAIN CIRCUMSTANCES, AMY PRODUCE RADIATION IN EXCESS OF DESIRABLE LEVELS.
2. ONLY FACTORY SPECIFIED C.R.T ANODE CONNECTORS MUST BE USED. DEGAUSSING SHIELDS ALSO SERVE AS X-RAY SHIELD IN COLOR SETS. ALWAYS RE-INSTALL THEM.
3. IT IS ESSENTIAL THAT SERVICE PERSONNEL HAVE AVAILABLE AN ACCURATE AND RELIABLE HIGH VOLTAGE METER. THE CALIBRATION OF THE METER SHOULD BE CHECKED PERIODICALLY AGAINST A REFERENCE STANDARD. SUCH AS THE ONE AVAILABLE AT YOUR DISTRIBUTOR.
4. WHEN THE HIGH VOLTAGE CIRCUITRY IS OPERATING PROPERLY THERE IS NO POSSIBILITY OF AN X-RADIATION PROBLEM. EVERY TIME A COLOR CHASSIS IS SERVICED, THE BRIGHTNESS SHOULD BE RUN UP AND DOWN WHILE MONITORING THE HIGH VOLTAGE WITH A METER TO BE CERTAIN THAT THE HIGH VOLTAGE DOES NOT EXCEED THE SPECIFIED VALUE AND THAT IT IS REGULATING CORRECTLY. WE SUGGEST THAT YOU AND YOUR SERVICE ORGANIZATION REVIEW TEST PROCEDURES SO THAT VOLTAGE REGULATION IS ALWAYS CHECKED AS A STANDARD SERVICING PROCEDURE, AND THAT THE HIGH VOLTAGE READING BE RECORDED ON EACH CUSTOMER'S INVOICE.
5. WHEN TROUBLESHOOTING AND MAKING TEST MEASUREMENTS IN A PRODUCT WITH A PROBLEM OF EXCESSIVE HIGH VOLTAGE, AVOID BEING UNNECESSARILY CLOSE TO THE PICTURE TUBE AND THE HIGH VOLTAGE SUPPLY. DO NOT OPERATE THE PRODUCT LONGER THAN IS NECESSARY TO LOCATE THE CAUSE OF EXCESSIVE VOLTAGE.
6. REFER TO HV, B+ AND SHUTDOWN ADJUSTMENT PROCEDURES DESCRIBED IN THE APPROPRIATE SCHEMATIC AND DIAGRAMS (WHERE USED).

SUBJECT : IMPLOSION

1. ALL DIRECT VIEWED PICTURE TUBES ARE EQUIPPED WITH AN INTEGRA IMPLOSION PROTECTION SYSTEM. BUT CARE SHOULD BE TAKEN TO AVOID DAMAGE DURING INSTALLATION. AVOID SCRATCHING THE TUBE. OF SCRATCHED REPLACE IT.
2. USE ONLY RECOMMENDED FACTORY REPLACEMENT TUBES.

SUBJECT : TIPS ON PROPER INSTALLATION

1. NEVER INSTALL ANY PRODUCT IN A CLOSED-IN RECESS, CUBBYHOLE OR CLOSELY FITTING SHELF SPACE, OVER OR CLOSE TO HEAT DUCT, OR IN THE PATH OF HEATED AIR FLOW.
2. AVOID CONDITIONS OF HIGH HUMIDITY SUCH AS: OUTDOOR PATIO INSTALLATIONS WHERE DEW IS A FACTOR, NEAR STEAM RADIATORS WHERE STEAM LEAKAGE IS A FACTOR, ETC.
3. AVOID PLACEMENT WHERE DRAPERIES MAY OBSTRUCT REAR VENTING. THE CUSTOMER SHOULD ALSO AVOID THE USE OF DECORATIVE SCARVES OR OTHER COVERINGS WHICH MIGHT OBSTRUCT VENTILATION.
4. WALL AND SHELF MOUNTED INSTALLATIONS USING A COMMERCIAL MOUNTING KIT, MUST FOLLOW THE FACTORY APPROVED MOUNTING INSTRUCTIONS. A PRODUCT MOUNTED TO A SHELF OR PLATFORM MUST RETAIN ITS ORIGINAL FEET (OR THE EQUIVALENT THICKNESS IN SPACERS)TO PROVIDE ADEQUATE AIR FLOW ACROSS THE BOTTOM, BOLTS OR SCREWS USED FOR FASTENERS MUST NOT TOUCH ANY PARTS OR WIRING. PERFORM LEAKAGE TEST ON CUSTOMIZED INSTALLATIONS.
5. CAUTION CUSTOMERS AGAINST THE MOUNTING OF A PRODUCT ON SLOPING SHELF OR A TILTED POSITION, UNLESS THE PRODUCT IS PROPERLY SECURED.
6. A PRODUCT ON A ROLL-ABOUT CART SHOULD BE STABLE ON ITS MOUNTING TO THE CART. CAUTION THE CUSTOMER ON THE HAZARDS OF TRYING TO ROLL A CART WITH SMALL CASTERS ACROSS THRESHOLDS OR DEEP PILE CARPETS.
7. CAUTION CUSTOMERS AGAINST THE USE OF A CART OR STAND WHICH HAS NOT BEEN LISTED BY UNDERWRITERS LABORATORIES. INC. FOR USE WITH THEIR SPECIFIC MODEL OF TELEVISION RECEIVER OR GENERICALLY APPROVED FOR USE WITH T.V.S OF THE SAME OR LARGER SCREEN SIZE.
8. CAUTION CUSTOMERS AGAINST THE USE OF EXTENSION CORDS, EXPLAIN THAT A FOREST OF EXTENSIONS SPROUTING FROM A SINGLE OUTLET CAN LEAD TO DISASTROUS CONSEQUENCES TO HOME AND FAMILY.

PRODUCT SAFETY SERVICING GUIDELINES FOR COLOR TELEVISION RECEIVERS

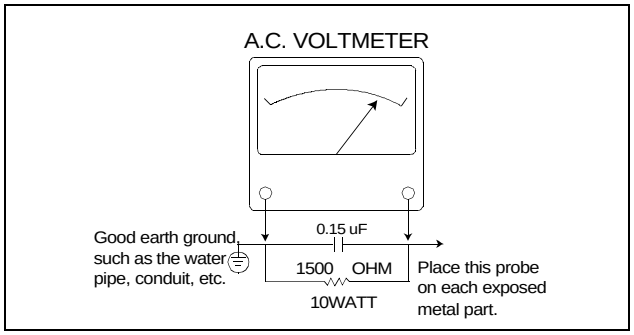
CAUTION : Do not attempt to modify this product in any way. Unauthorized modifications will not only void the warranty, but may lead to your being liable for any resulting property damage or user injury.
Service work should be performed only after you are thoroughly familiar with all of the following safety checks and servicing guidelines. To do otherwise, increases the risk of potential hazards and injury to the user.

SAFETY CHECKS

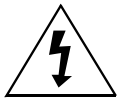
After the original service problem has been corrected, a check should be made of the following:

SUBJECT : FIRE & SHOCK HAZARD

1. Be sure that all components are positioned in such a way as to avoid possibility of adjacent component shorts. This is especially important on those chassis which are transported to and from the repair shop.
2. Never release a repair unless all protective devices such as insulators, barriers, covers, shields, strain reliefs, and other hardware have been reinstalled per original design.
3. Soldering must be inspected to discover possible cold solder joints, frayed leads, damaged insulation (including A.C. cord), solder splashes or sharp solder points. Be certain to remove all loose foreign particals.
4. Check for physical evidence of damage or deterioration to parts and components, and replace if necessary follow original layout, lead length and dress.
5. No leads or components should touch a receiving tube or a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces must be avoided.
6. All critical components such as fuses, flameproof resistors, capacitors, etc. must be replaced with exact factory types. Do not use replacement components other than those specified or make unrecommended circuit modifications.
7. After re-assembly of the set always perform an A.C. leakage test on all exposed metallic parts of the cabinet, (the channel selector knob, antenna terminals, handle and screws) to be sure the set is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this test. Use an A.C. voltmeter, having 5000 ohms per volt or more sensitivity, in the following manner : connect a 1500 ohm 10 watt resistor, paralleled by a 15 mfd. 150V A.C. type capacitor between a known good earth ground (9water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the A.C. voltage across the combination of 1500 ohm resistor and 0.15 MFD capacitor. Reverse the A.C. plug and repeat A.C. voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.75 volts R.M.S. This corresponds to 0.5 milliamp A.C. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

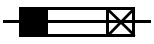

A.C. VOLTMETER
0.15 uF
Good earth ground, such as the water pipe, conduit, etc.
1500 OHM
10WATT
Place this probe on each exposed metal part.

GRAPHIC SYMBOLS :



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the service personnel to the presence of uninsulated "dangerous voltage" that may be of sufficienty magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the service personnel to the presence of important safety information in service literature.



Fuse symbol is printed on pcb adjacent to the fuse, with "RISK OF FIRE REPLACE FUSE AS MARKED". The symbol is explained in the service manual with the following wording or equivalent.

"CAUTION : FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE (4A, 125V)" and "**ATTENTION**: AFIN D'ASSU UNE PROTECTION PERMANENTE CONTRE LES RISQUES D INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE ET DE "4A, 125V".

SUBJECT : X-RADIATION

1. Be sure procedures and instructions to all service personnel cover the subject of X-rays in current T.V. receivers is the picture tube. However, this tube does not emit X-rays when the high voltage is at the factory specified level. The proper value is given in the applicable schematic. Operation at higher voltages may cause a failure of the picture tube or high voltage supply and, under certain circumstances, may produce radiation in excess of desirable levels.
2. Only factory specified C.R.T. anode connectors must be used. Degaussing shields also serve as X-ray shield in color sets. Always re-install them.
3. It is essential that the serviceman has available an accurate and reliable high voltage meter. The calibration of the meter should be checked perio - dically against a reference standard. Such as the one available at your distributor.
4. When the high voltage circuitry is operating properly there is no possibility of an X-radiation problem. Every time a color chassis is serviced, the brightness should be run up and down while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly. We suggest that you and your service organization review test procedures so that voltage regulation is always checked as a standard servicing procedure. And that the high voltage reading be recorded on each customer's invoice.
5. When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, avoid being unnecessarily close to the picture tub eand the high voltage compartment.
   Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.
6. Refer to HV, B+and Shutdown adjustment procedures described in the appropriate schematic and diagrams(where used).

SUBJECT : IMPLOSION

1. All direct viewed picture tubes are equipped with an integral implosion protection system, but care should be taken to avoid damage during installation. Avoid scratching the tube. If scratched, replace it.
2. Use only recommended factory replacement tubes.

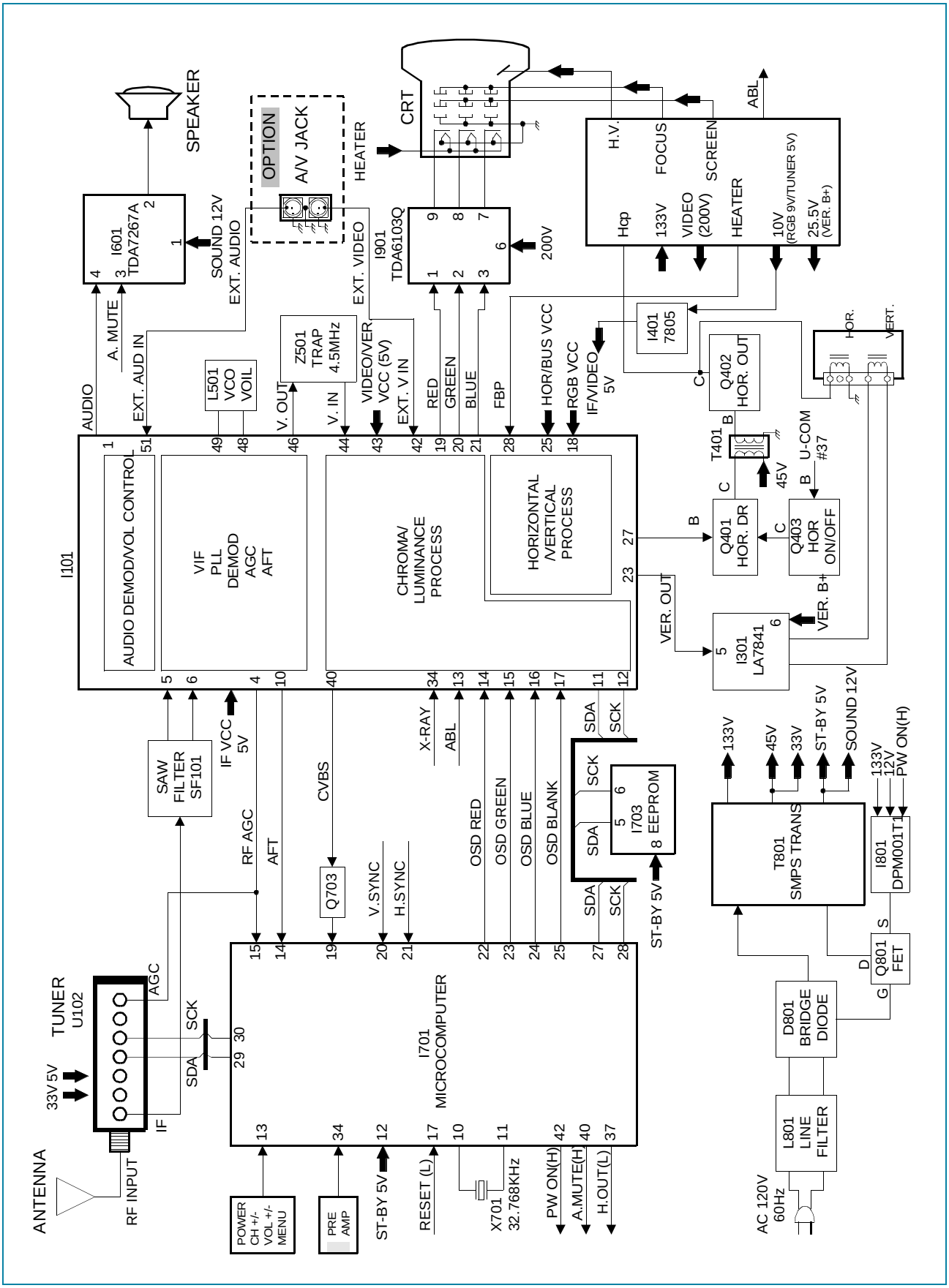
SUBJECT : TIPS ON PROPER INSTALLATION

1. Never install any receiver in closed-in recess, cubbyhole or closely fitting shelf space over, or close to heat duct, or in the path of heated air flow.
2. Avoid conditions of high humidity such as : Outdoor patio installations where dew is a factor. Near steam radiators where steam leakage is a factor, etc.
3. Avoid placement where draperies may obstruct rear venting. The customer should also avoid the use of decorative scarves or other coverings which might obstruct ventilation.
4. Wall and shelf mounted installations using a commercial mounting kit, must follow the factory approved mounting instructions. A receiver mounted to a shelf or platform must retain its original feet(or the equivalent thickness in spacers) to provide adequate are flow across the bottom, bolts or screws used for fasteners must not touch and parts or wiring. Perform leakage test on customized installations.
5. Caution customers against the mounting of a receiver on sloping shelf or a tilted position, unless the receiver is properly secured.
6. A receiver on a roll-about cart should be stable on its mounting to the cart. Caution the customer on the hazards of trying to roll a cart with small casters across thresholds or deep pile carpets.
7. Caution customers against the use of a cart or stand which has not been listed by underwriters laboratories, inc. For use with their specific model of television receiver or generically approved for use with T.V.'s of the same or larger screen size.

SPECIFICATIONS

MODEL / ITEMS	DTQ-14J4FC, DTQ-14J4FCA, DTQ-14J4FCC, DTQ-20J4FC	REMARKS
TV STANDARD	NTSC-M	
POWER INPUT	AC 120V 60 Hz	
POWER CONSUMPTION	14 = 55W 20 = 65W	
TUNING SYSTEM	Frequency Synthesizer (FS) Tuning System	
TUNING RANGES	VHF : 2 ~ 13 (12) UHF : 14 ~ 69 (56) CATV : 1 ~ 125 (125)	
SOUND OUTPUT	1.3 W	
SPEAKER	3 W 8 ohm	
ANTENNA INPUT IMPEDANCE	75 ohm Unbalanced	
AUXILIARY INPUT TERMINAL	Front : Video, Audio Rear : Video, Audio	
INTERMEDIATE FREQUENCIES	Picture IF Carrier Frequency : 45.75 MHz Sound IF Carrier Frequency : 41.25 MHz Color Sub-Carrier Frequency : 42.17 MHz	
REMOTE CONTROL	R-25Z10, R-25Z11	
SPECIAL FUNCTIONS	3-Language OSD With CAPTION Wake-up On/Off Time Sleep Timer Power Restore	

BLOCK DIAGRAM



ALIGNMENT INSTRUCTIONS

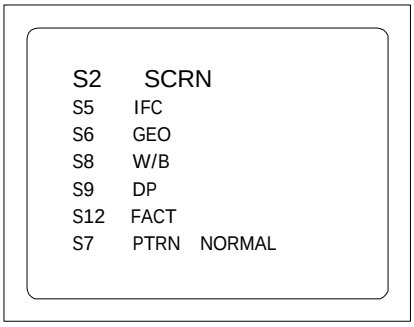
1. SERVICE MODE ADJUSTMENTS

Follow the steps below whenever service adjustment is required. See Table- A and Table- B to determine if service adjustments are required.

1) How to enter the service mode using the user remote control.

- Turn the set on.
- Direct the remote control to the reception window of TV.
- Push buttons of remote control in sequence as follows.

  1 ® MUTE ® DISPLAY ® MUTE
- Then, the screen will appear as follows.



- Using the channel up or channel down button, select the item you wish to adjust. (The color of selected item turns into the red.)
- Press the volume up or down button to enter in the service mode you wish to adjust.

2) How to memorize the adjusted values in the service mode.

- Must press **DISPLAY** button the state which the screen is displaying each of service menus after all adjustments are completed each of all service menu.

Table-A : Adjust the values of service mode when a part is replaced.

PART REPLACED	ADJUSTMENT		NOTES
	NECESSARY	UNNECESSARY	
I701 (U-COM)		O	Data is stored in I703.
I101 (MAIN)		O	
I703 (EEPROM)	O		Initial setting values are written from I701. Adjusting Items S5 RFAGCD S6 H.PHASE/V.POSI/V.SIZE S8 RD/BD/RB/GB/BB S9 Subbrightness
CRT	O		Adjust items related to picture tube only.(White Balance adjustment)

Table-B

MODE	ADJUSTMENT ITEMS	DATA		REMARKS
		INITIAL	RANGE	
S2	Screen Adjustment	-	-	
S5	Auto RF AGC	-	-	
	Video Level (VIDEOL)	7	0 ~ 7	Must be set to 7
	RF AGC Delay (RFAGCD)	*	0 ~ 63	Align RF AGC threshold
	FM Level (FM.LEV)	8	0 ~ 31	Must be set to 20
	AGC Point	3.75	-	Select AGC reference voltage
	A/D VALUE	-	-	
S6	Horizontal Phase(H.PHASE)	*	0 ~ 31	Align sync to flyback pulse, using internal cross pattern(S7)
	Vertical Position (V.POSI)	*	0 ~ 63	Align vertical DC bias, using internal cross pattern(S7)
	Vertical Size (V.SIZE)	*	0 ~ 127	Align vertical amplitude, using internal cross pattern(S7)
	NO SD POWER OFF	YES	-	Automatically turn off in 15min for no received signal.
	Vertical S-Correction (V SC)	0	0 ~ 31	Must be set to 6
	Vertical Linearity (V LIN)	20	0 ~ 31	Must be set to 16
S7	Internal Black	-	-	Display internal BLACK pattern
	Internal 100% White	-	-	Display internal 100% WHITE
	Internal 60% White	-	-	Display internal 60% WHITE
	Internal Cross Pattern	-	-	Display internal CROSS pattern
S8	Red Drive (RD)	*	0 ~ 127	Align RED OUT AC level
	Green Drive (GD)	10	0 ~ 15	Must be set to 10
	Blue Drive (BD)	*	0 ~ 127	Align BLUE OUT AC level
	Red Bias (RB)	*	0 ~ 255	Align RED OUT DC level
	Green Bias (GB)	*	0 ~ 255	Align GREEN OUT DC level
	Blue Bias (BB)	*	0 ~ 255	Align BLUE OUT DC level
S9	Subbrightness	*	0 ~ 127	Align common RGB DC level
	Contrast	10	0 ~ 27	
	Tint	27	0 ~ 27	
	Color	15	0 ~ 27	
S12	Forwarding Mode	-		Factory Initialization

* indicates the items with different settings each of sets

2. ASSEMBLY ADJUSTMENTS

1) SCREEN ADJUSTMENT (S2)

- Enter the service mode and select service adjustment S2.
- You cna see the one horizontal line on the screen.
- Adjust the Screen Control Volume (located on FBT) so that the horizontal line onscreen may be disappeared.
- Press the volume up or down button to exit in the screen adjustment mode.

NOTE

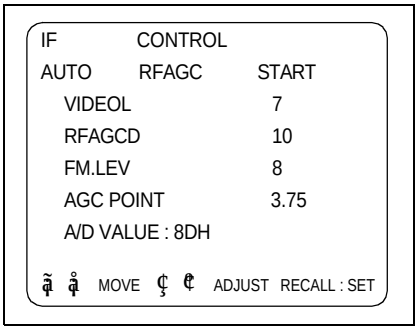
IN THE SCREEN ADJUSTMENT MODE, DONT PRESS OTHER BUTTONS EXCEPT VOLUME UP OR DOWN BUTTON.

2) FOCUS ADJUSTMENT

- Turn in a local station and adjust the Focus Control knob (located on FBT) for best picture details at high light condition.

3) RF AGC DELAY ADJUSTMENT (S5)

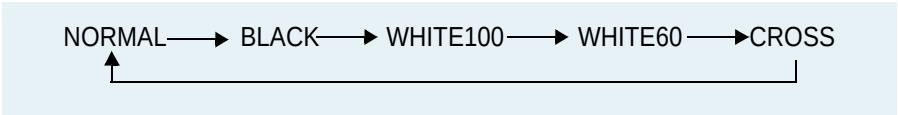
- Receive a good local channel.
- Enter the service mode and select service adjustment S5.
- You can see the OSD as shown in below.



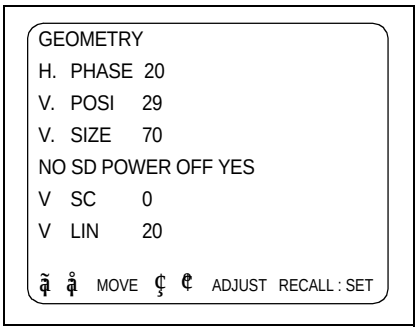
- Select RFAGCD item, press the volume up or down button until noise or beat in picture disappears.
- Press the DISPLAY button to memorize the data.

4) GEOMETRIC ADJUSTMENTS (S6)

- Enter the service mode and select service adjustment S7.
- Whenever you select the "S7" using the volume up or down button, the screen is changing like this.



- Using the volume up or down button, select internal cross pattern.
- Select service adjustment S6
- You can see the OSD as shown in below.



4-1. Horizontal Position Adjustment

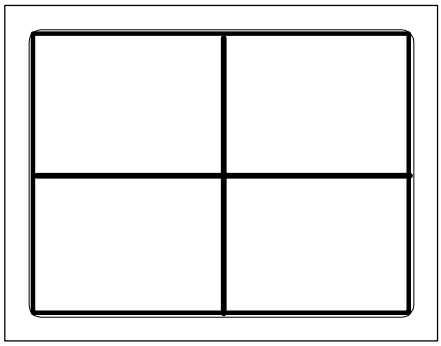
- Select H.PHASE item, adjust H.PHASE data value to obtain proper horizontal centering of the internal cross pattern at the left and right of the screen.

4-2. Vertical Position Adjustment

- Select V.POSI item, adjust V.POSI data value to center the raster properly on thescreen.

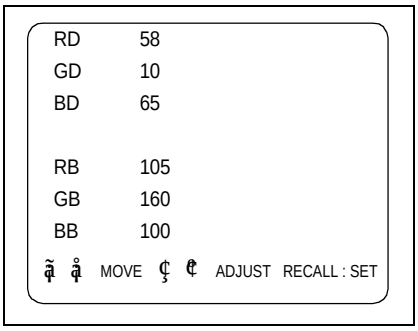
4-3. Vertical Size Adjustment

- Select "V.SIZE" item, adjust "V.SIZE" data value to proper vertical size as follows.



5) WHITE BALANCE ADJUSTMENT(S8)

- Receive a good local channel.
- Enter the service mode and select service adjustment S8.
- You can see the OSD as shown in below.

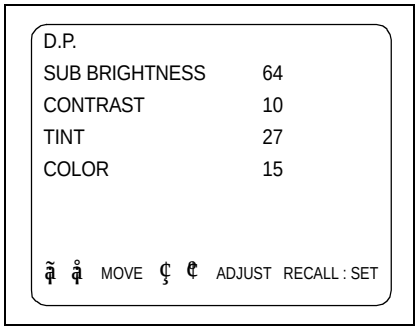


- Using volume up or volume down, adjust service adjustment data of RD/GD/BD and RB/GB/BB until a good gray scale with normal whites is obtained.ALIGNMENT INSTRUCTIONS
- Press the DISPLAY button to memorize the data.

6) DIGITAL PRESET(D.P) ADJUSTMENTS(S9)

SUBBRIGHTNESS ADJUSTMENT

- Receive a good local channel.
- Enter the service mode and select service adjustment S9.
- You can see the OSD as shoown in below.



- Select Subbrightness item, adjust Subbrightness data value to obtain normal brightness level.
- Press the DISPLAY button to memorize the data.

CONTRAST

- Fixed value = 10

TINT

- Fixed value = 27

COLOR

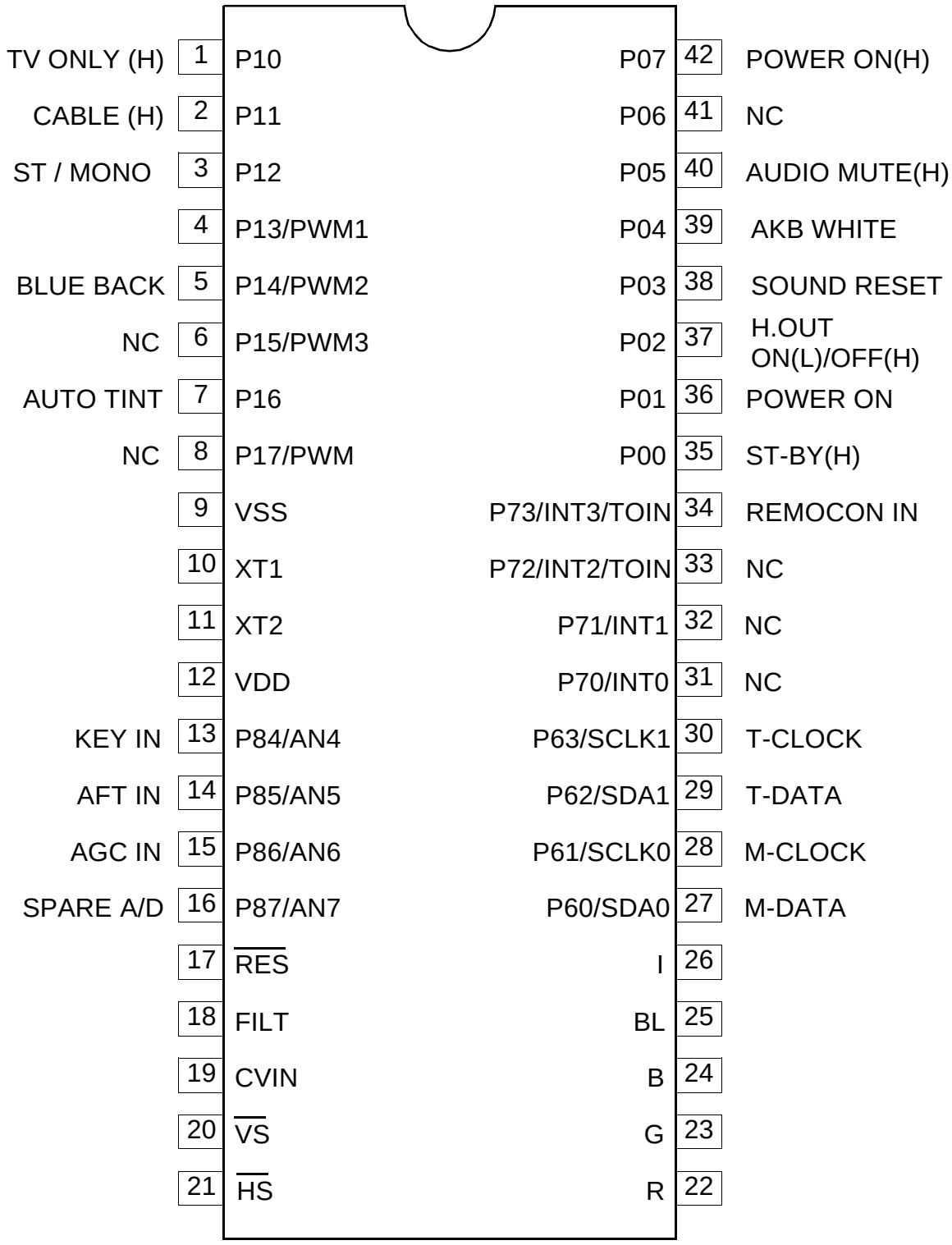
- Fixed value = 15

7) FACTORY OUTGOING MODE (S12 : FACT)

- If you select the S12, then the set becomes factory outgoing status.
- You can see the OSD "outgoing OK"

IC DESCRIPTION

U-COM(I701)



- X'TAL : 32.768 KHz

1. Abstract.

This specification is 1-Tuner Mono Model for North/South America, CCD 1-Chip MICOM LC863228A.
It is developing software specification for tuning only NTSC and 3 system TV F/S.
* 3 System : NTSC-M, PAL-M, PAL-N.

2. H/W Outline.

1) ROM : 28,672 x 8bits.tsc
: 15,872 x 8 bits for CGROM.
2) RAM : 512 x 8bits.
: 336 x 9bits.(for CRT Display)
3) OSD Function.

- Screen Display. : 34 characters x 16 lines.(by software)
- RAM : 336 words. (9 bits per word)
  Display area. : 34 words. x 8 lines.
  1st control area. : 8 words. x 8 lines.
- Characters.
  244 patterns programmable.
  Up to 244 kinds of 16 x 17 dot characters.
  Up to 244 kinds of 8 x 9 dot characters.
  or
  Up to 244 kinds of 16 x 32 dot characters used 16K bytes.
- Various characters attributes.
  Character colors. : 16 colors
  Character background colors. : 16 colors
  Fringe / shadow colors. : 16 colors
  Full screen colors. : 16 colors
  Rounding.
  Underline.
  Italic character.(slanting)
- Attribute can be changed without spacing.
- Vertical display start line number can be set for each row independently.(Row can be overlapped.)
- Horizontal display start position can be set for each row independently.
- Different display modes can be set for each row independently.
  Caption and Text mode/ OSD mode 1/ OSD mode 2(Quarter size)/ Simplified graphic mode.
- Ten character sizes.
  Horiz. x Vert. = (1x1),(1x2),(2x2),(2x4),(0.5x0.5)
  (1.5x1),(1.5x2),(3x2),(3x4),(0.75x0.5)
- Shuttering and scrolling on each row.

3. System Feature.

1) The system for TV tuning is Frequency Synthesis type.
2) Closed Captions function is interior designed.

3) On Screen Displays function is interior designed.
4) Package. : 42 PIN SDIP.
5) Tuner (Pre-scaler.) : I^2C Bus.
/PLL IC : TAU 6014-S(SIEMENS).
6) Remocon. : The IC of Transmission (MITSUBISHI M50560)
7) E^2PROM. : 24C08(I^2C Bus) ◊ Apply one byte Read/Write mode.
8) 6-Local Key. : A/D Input Control.(Power, Ch Up/Down, Vol Up/Down, Menu)
9) Option S/W : Port Input Option Check.
10) IF/V/C/D IC :LA76814(, The only NTSC), LA76810(, 3-system)

4. Function.

1) C. C. D. function.
- A section of C. C. D. operates FCC based specification.

2) C. C. D. controlled function.
- Closed Caption Mode. (Off<-->C1<-->C2<-->T1<-->T2<-->Off)
- CC On Mute.(Off <-->C1<-->C2<-->Off)
- Closed Caption is prior to CC On Mute.

3) Tuning Function.
- I^2C Bus.
- PLL IC Interface.
- FS 181 Channel (AIR 2-69CH, CABLE 1-125CH)
- AFT Operation(Fine Tuning) -2.5Fn+2.5MHz
- AIR/CABLE (STD, HRC, IRC). Only Cable 5,6CH is that AFT range is cover over broad-band. -2.5MHzFn+3.5MHz..
- Memorize Channels.(If a channel is broadcasting, the channel is memorized.)
- Direct Tuning(09KEY)
- Channel Up/Down.(Memorized Channels) -> The Ch Up/Down buttons on the Remocon and on the front panel are same function.
- Search Channel Up/Down.(If No-Memory or only 1CH is Memory)
- Channel Memory.(ADD/DELETE)
- Channel Review Function.
- Last Channel Memory Function.

4) OSD Function.
- In Line(Video) Mode, Things(Items) that is concerned with Air and Cable disappear in the Menu.
- Channel, AV display.
- Small & Graphic ICON Menu.
- Volume / Picture control --> I^2C Bus Control

5) The Others Function.
- Video/Audio Mute Function.
- If a Channel is no signal, after 15 minutes is Auto-Power Off Function.

- Auto Power On Function.(Power Restore function in the Special Menu)
- Heat Run Function. --- OSD White Back-Ground
- Sleep Timer.
- Wake Up Time Function.
- Off Time Function.
- Remote Reception & Control.
- Auto Tint.
- Power Restore.
- Input(TV/Line) Controlled function. ---------- (Option)
- Reception.(Air/Cable : Factory Initial Condition)----------(Option)
- Blue Background.----------(Option)
- 3-Language (North America : ENG/SPA/FRA, South America : ENG/SPA/POR).
- E^2PROM Interface (I^2C Bus Control)
- CH 6 TRAP Function.(IS-31)
- PLL IC Band Data.(Control Byte 2-->P3~P0)

  VHF L : 1

  VHF H : 2

  CH6 TRAP : 5 (IS-31) AIR(Cable) CH 6 Only

  UHF : 8

5. The Table of Option and Schedule.

Model Name	Pin	Option		Application	Reference
CN - 001A	#1	Input	Video/TV	O	- Low(DC_0V) : Video.
					- High(DC_5V) : TV.
	#2	Reception	Air/Cable	O	- Low(DC_0V) : Air.
					- High(DC_5V) : Cable.
	#3	Audio	Mono/Stereo	O	- Low(DC_0V) : Stereo.
					- High(DC_5V) : Mono.
	#4	Remote		O	- Low(DC_0V) :Deawoo.
					- High(DC_5V) : Mitshubishi
	#5	Bule Back		O	- Low(DC_0V) : Blue Back.
					- High(DC_5V) : No Use.
	#6	XDS		X	- No Use.
	#7	Channel Lock		X	- No Use.
Tatal Sun				7	- Use. (No Use.)

6. Pin Description

<table>
<tr><th>PIN</th><th>Terminal</th><th>Name</th><th>Explanation</th><th>Remarks</th></tr>
<tr><td>1</td><td>P10</td><td>Input
(Option)</td><td>- High(DC_5V) : The only TV.
- Low(DC_0V) : Line.(Video)</td><td rowspan="8">- Output Format.
- CMOS/Nch -OD.</td></tr>
<tr><td>2</td><td>P11</td><td>Reception
(Option)</td><td>- High(DC_5V) : Cable.
- Low(DC_0V) : Air.</td></tr>
<tr><td>3</td><td>P12</td><td>Audio
(Option)</td><td>- High(DC_5V) : Mono.
- Low(DC_0V) : Stereo.</td></tr>
<tr><td>4</td><td>P13/PWM1</td><td>Remocon
(Option)</td><td>- High(DC_5V) : Mitshubishi.
- Low(DC_0V) : Daewoo(Only at Factory)</td></tr>
<tr><td>5</td><td>P14/PWM2</td><td>Blue Back
(Option)</td><td>- High(DC_5V) : No Blue Back.
- Low(DC_0V) : Blue Back.</td></tr>
<tr><td>6</td><td>P15/PWM3</td><td>Option
(V-Chip)</td><td>- High(DC_5V) : V-Chip.
- Low(DC_0V) : No V-Chip.</td></tr>
<tr><td>7</td><td>P16</td><td>Option
(Auto Tint)</td><td>- High(DC_5V) : Auto Tint.
- Low(DC_0V) : No Auto Tint.</td></tr>
<tr><td>8</td><td>P17/PWM</td><td>PWM
(Cn-220 only)</td><td>- The 8 pin is a spare pin.
- Pin 1 to Pin 8.
- 8-bit input / output port.
- Input /Output can be specified in a bit.
- Other function.
<table><tr><td>P13</td><td>PWM 1 output</td></tr><tr><td>P14</td><td>PWM 2 output</td></tr><tr><td>P15</td><td>PWM 3 output</td></tr><tr><td>P16</td><td>Timer 1(PWM) output.</td></tr></table>- This use cn220 but don't use cn001.</td></tr>
<tr><td>9</td><td>VSS</td><td>GND</td><td>- GND
- Negative power supply.</td><td></td></tr>
<tr><td>10</td><td>XT1</td><td>XT1</td><td rowspan="2">- It uses 32.768KHz X-TAL.
- 10 pin is input terminal for crystal oscillator.
- 11 pin is output terminal for crystal oscillator.</td><td rowspan="2"></td></tr>
<tr><td>11</td><td>XT2</td><td>XT2</td></tr>
<tr><td>12</td><td>VDD</td><td>VDD</td><td>- +5V(±0.5V)
- Positive power supply.</td><td></td></tr>
<tr><td>13</td><td>P84 / AN4</td><td>KEY IN</td><td>- Power, Ch up/down, Vol up/down, Menu.</td><td></td></tr>
<tr><td>14</td><td>P85 / AN5</td><td>AFT IN</td><td>- DC value that comes from the 10 pin of LA76810/14</td><td></td></tr>
<tr><td>15</td><td>P86 / AN6</td><td>AGC IN</td><td>- Connect this port to AGC of Tuner
- Default Voltage. : 3.75V
- Variable Voltages.: 3.25V, 3.5V, 4.0V</td><td></td></tr>
</table>

<table>
<tr><th>Pin</th><th>Terminal</th><th>Name</th><th>Explanation</th><th>Remarks</th></tr>
<tr><td>16</td><td>P87 / AN7</td><td>SPARE A/D</td><td>- 16 pin is a spare pin..
- 13 pin to 16 pin.
- 4 bit input/output port, Nch-OD output.
- Input or output can be specified for each bit.
- Other function.
.AD converter input port (4 lines).</td><td></td></tr>
<tr><td>17</td><td>/RES</td><td>/RES</td><td>- Reset terminal.
- Active Low.</td><td></td></tr>
<tr><td>18</td><td>FILT</td><td>Filter</td><td>- Filter terminal for PLL.
- Output terminal.</td><td></td></tr>
<tr><td>19</td><td>CVIN</td><td>CVSB IN</td><td>- Video signal input terminal..</td><td></td></tr>
<tr><td>20</td><td>/VS</td><td>/VS</td><td>- Vertical synchronization signal input terminal.</td><td></td></tr>
<tr><td>21</td><td>/HS</td><td>/HS</td><td>- Horizontal synchronization signal input terminal.</td><td></td></tr>
<tr><td>22</td><td>R</td><td>R</td><td>- Red output terminal of RGB image.</td><td></td></tr>
<tr><td>23</td><td>G</td><td>G</td><td>- Green output terminal of RGB image.</td><td></td></tr>
<tr><td>24</td><td>B</td><td>B</td><td>- Blue output terminal of RGB image.</td><td></td></tr>
<tr><td>25</td><td>BL</td><td>BL</td><td>- Fast blanking control signal.
- Switch TV image signal and caption / OSD image signal.
- Output terminal.</td><td></td></tr>
<tr><td>26</td><td>I</td><td>I</td><td>- Intensity output terminal of RGB image signal.
- Output terminal.</td><td></td></tr>
<tr><td>27</td><td>P60/ SDA 0</td><td>ROM Data
Main IC Data</td><td rowspan="4">- 6-bit input/ output port.
- Input / output can be specified for each bit.
- Other function.
<table><tr><td>P60</td><td>IIC0 data I/O</td></tr><tr><td>P61</td><td>IIC0 clock output.</td></tr><tr><td>P62</td><td>IIC1 data I/O.</td></tr><tr><td>P63</td><td>IIC1 clock output.</td></tr></table></td><td rowspan="4"></td></tr>
<tr><td>28</td><td>P61/ SCLK 0</td><td>ROM CLK
Main IC CLK</td></tr>
<tr><td>29</td><td>P62/ SDA 1</td><td>Tuner Data</td></tr>
<tr><td>30</td><td>P63/ SCLK 1</td><td>Tuner CLK</td></tr>
</table>

<table>
<tr><th>Pin</th><th>Terminal</th><th>Name</th><th>Explanation</th><th>Remarks</th></tr>
<tr><td>31</td><td>P70 / INT 0</td><td>Sound Input</td><td rowspan="4">- 4-bit input/ output port.
- Input or output can be specified for each bit.
- # 31 : . Only Cn-220, ITT(MSP)
Low : Front Mask /Mono, High : Back / Stereo.
- Other function
<table><tr><td></td><td>R</td><td>F</td><td>R/ F</td><td>H</td><td>L</td><td>V</td></tr><tr><td>INT0</td><td>E</td><td>E</td><td>D</td><td>E</td><td>E</td><td>03H</td></tr><tr><td>INT1</td><td>E</td><td>E</td><td>D</td><td>E</td><td>E</td><td>0BH</td></tr><tr><td>INT2</td><td>E</td><td>E</td><td>E</td><td>D</td><td>D</td><td>13H</td></tr><tr><td>INT3</td><td>E</td><td>E</td><td>E</td><td>D</td><td>D</td><td>1BH</td></tr></table>- Interrupt receiver format, vector addresses.
<table><tr><td>P70</td><td>INT0input/HOLDrelease input/Nch-Tr. output for watchdog timer.</td></tr><tr><td>P71</td><td>INT1 input/HOLD release input.</td></tr><tr><td>P72</td><td>INT2 input /Timer 0 event input.</td></tr><tr><td>P73</td><td>INT3 input(noise rejection filter attached)/Timer</td></tr></table>♣ Notice ☞ R: Rising, F: falling, H: H level, L: L level, V: Vector, E: Enable, D: Disable.</td><td></td></tr>
<tr><td>32</td><td>P71/ INT 1</td><td>N.C</td></tr>
<tr><td>33</td><td>P72 / INT 2/ T0 IN</td><td>SD In</td></tr>
<tr><td>34</td><td>P72 / INT 3 / T0 IN</td><td>Remocon In</td></tr>
<tr><td>35</td><td>P00</td><td>ST_By LED</td><td>- Use only Japan Model.
- This port uses when is Stand-By status.
- Condition : Input AC Power On.
- Power off : ‘High(DC 5V)’ Output.(Red)
- Power on : ‘Low(DC 0V)’Output.</td><td></td></tr>
<tr><td>36</td><td>P01</td><td>TV/VIDEO</td><td>- TV Mode : ‘ High’ Line(Video) Mode : ‘Low’.</td><td></td></tr>
<tr><td>37</td><td>P02</td><td>H.Out</td><td>- Use to discharge High Voltage when TV set turns off.</td><td></td></tr>
<tr><td>38</td><td>P03</td><td>Sound Reset</td><td>- Sound IC Reset : ITT.</td><td>-Only Cn-220</td></tr>
<tr><td>39</td><td>P04</td><td>AKB</td><td>-Use when control AKB(High Beam: ‘High(5V)’ Output)</td><td></td></tr>
<tr><td>40</td><td>P05</td><td>Audio Mute</td><td>-Use only ‘read data’ of ‘LA76814/10.</td><td></td></tr>
<tr><td>41</td><td>P06</td><td>Video White</td><td>-Use when TV set turns off.</td><td></td></tr>
<tr><td>42</td><td>P07</td><td>Power</td><td>- Use when does power off/on.
- .Power Off : Output ‘Low(DC 0V)’
. Power On : Output ‘High(DC 5V)’</td><td></td></tr>
</table>

Output form and existence of pull-up resistor for every port can be specified for each bit.

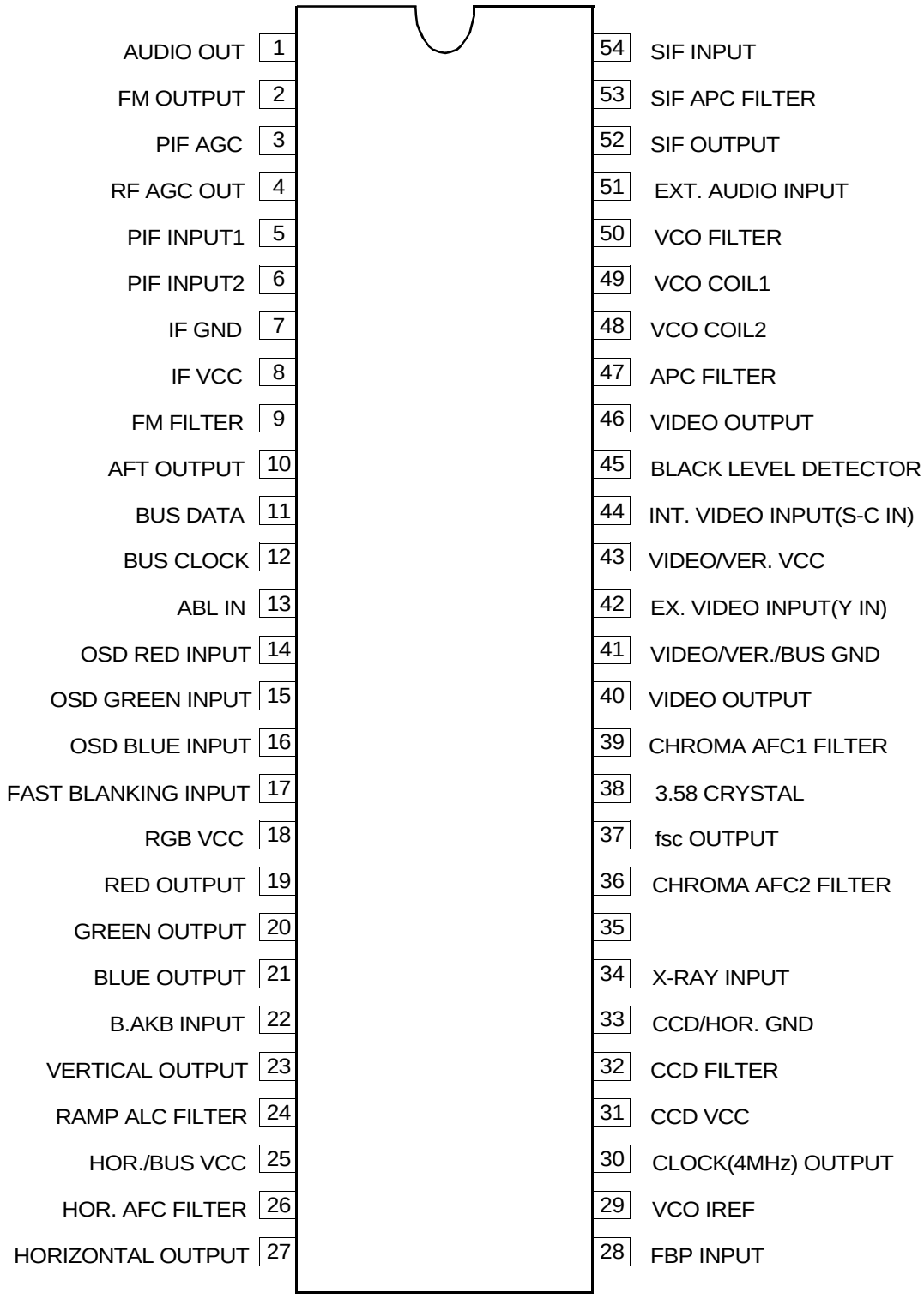
At port 1,”Programmable pull-up resistor provided” when specifying either CMOS or N-ch open drain output.

Port status in reset.

Terminal	I / O	Pull-up resistor status at selecting pull-up option.
Port 0	I	Pull-up resistor OFF, ON after reset release.
Port 1	I	Programmable pull-up resister OFF.

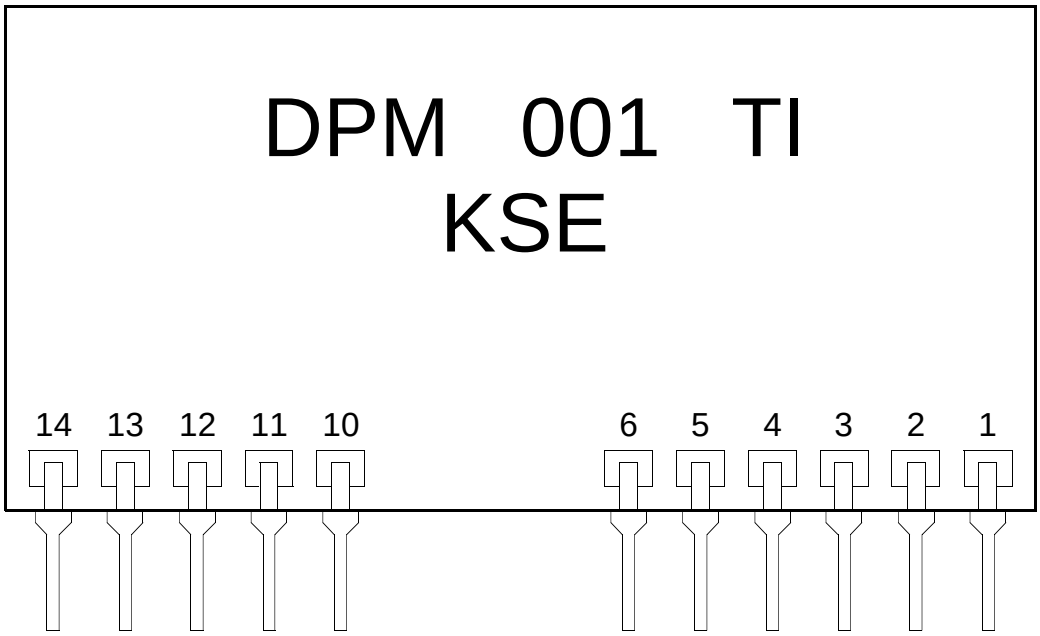
I101

DCT814(LA76814) : IC VIDEO PROCESSOR



I801

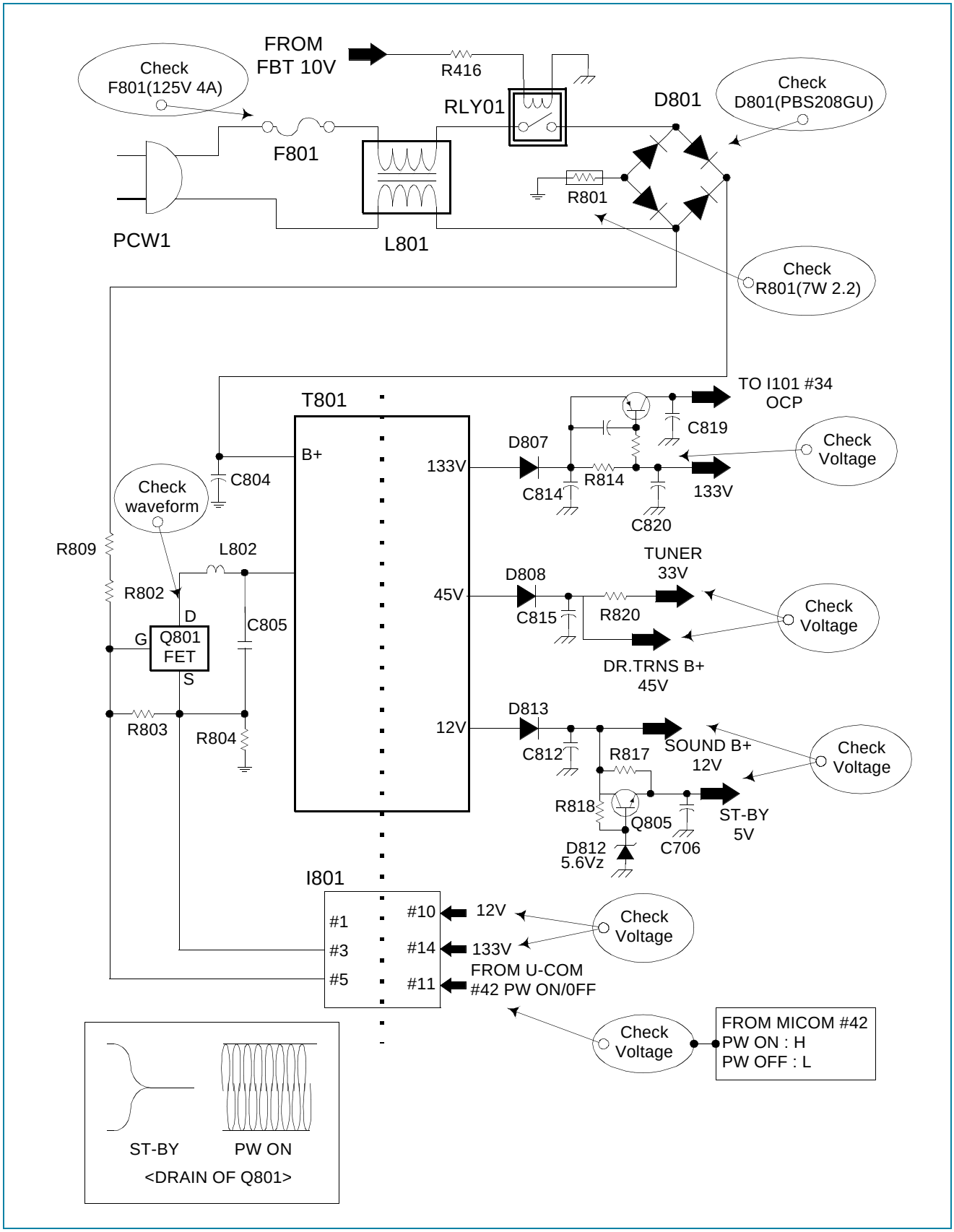
POWER CONTROL MODULE



PIN NO	DESCRIPTION	PIN NO	DESCRIPTION
1	GATE DRIVE1	10	+12V INPUT
2	OCP	11	POWER CONTROL
3	SOURCE	12	NC
4	GND1	13	GND2
5	GATE	14	+133V INPUT
6	GATE DRIVE2		

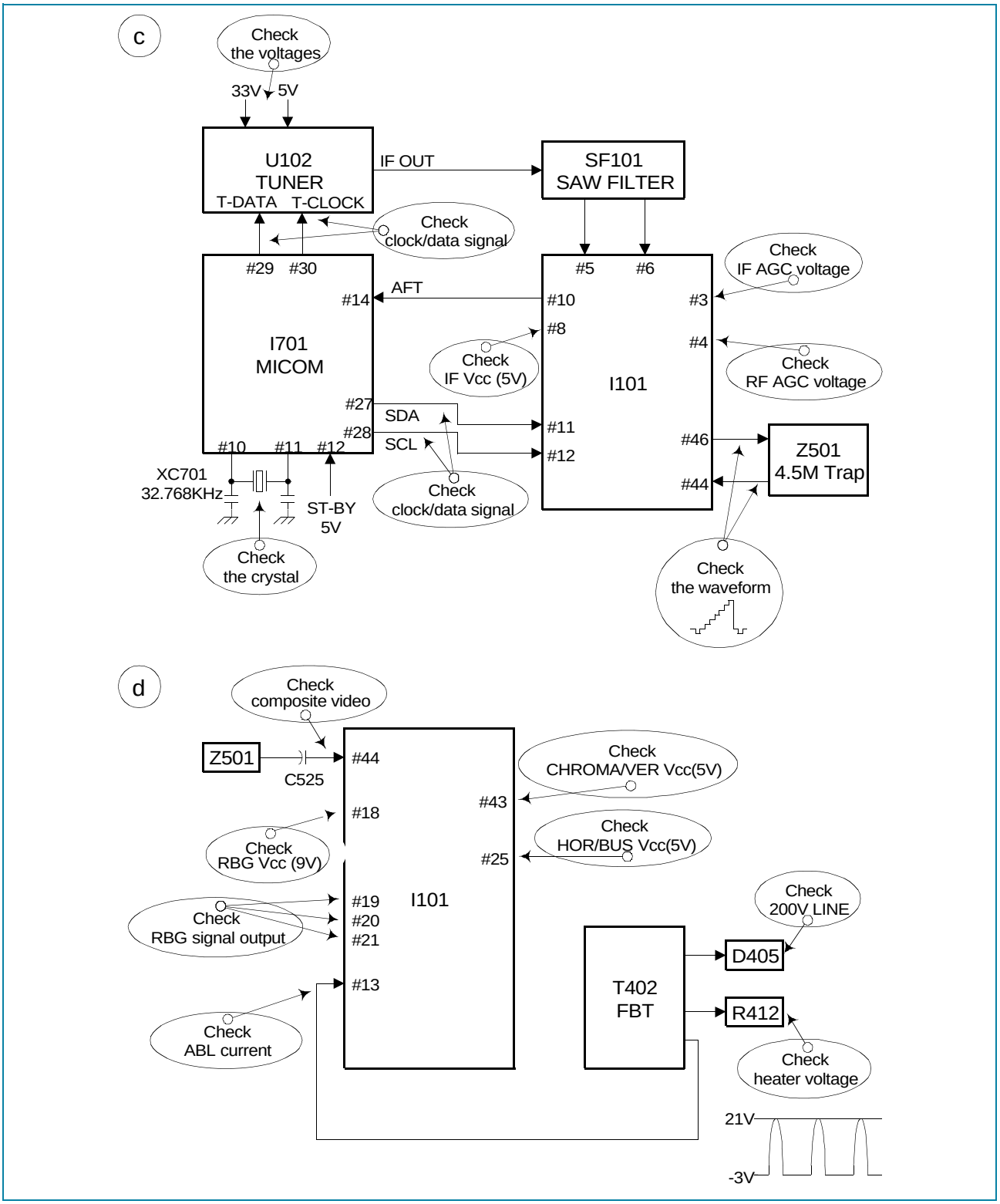
TROUBLESHOOTING GUIDE

1. NO POWER



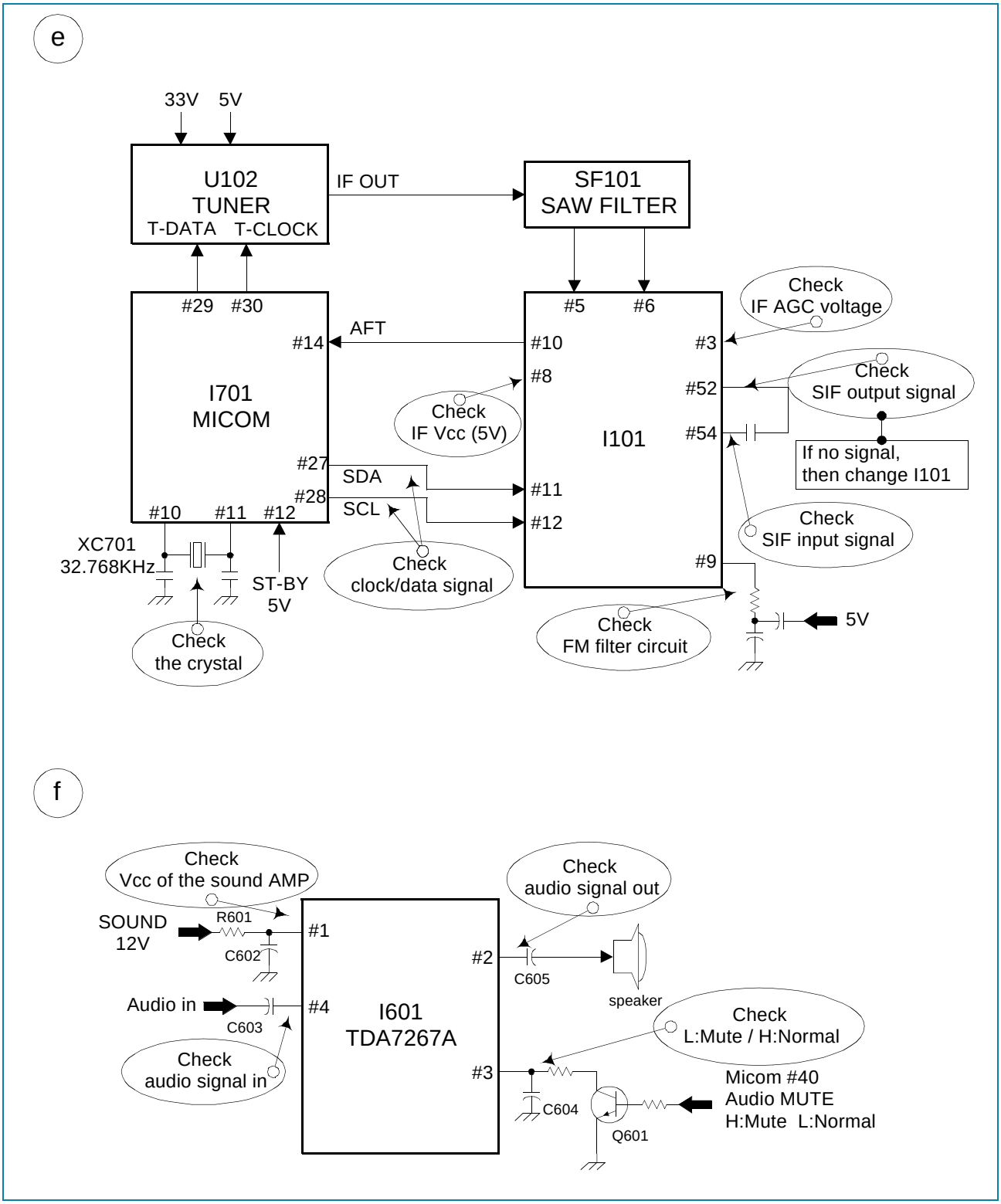
2. NO PICTURE

Check the waveform of I101 #46	NG : GO to the figure ⓒ
	OK : Go the figure ⓓ



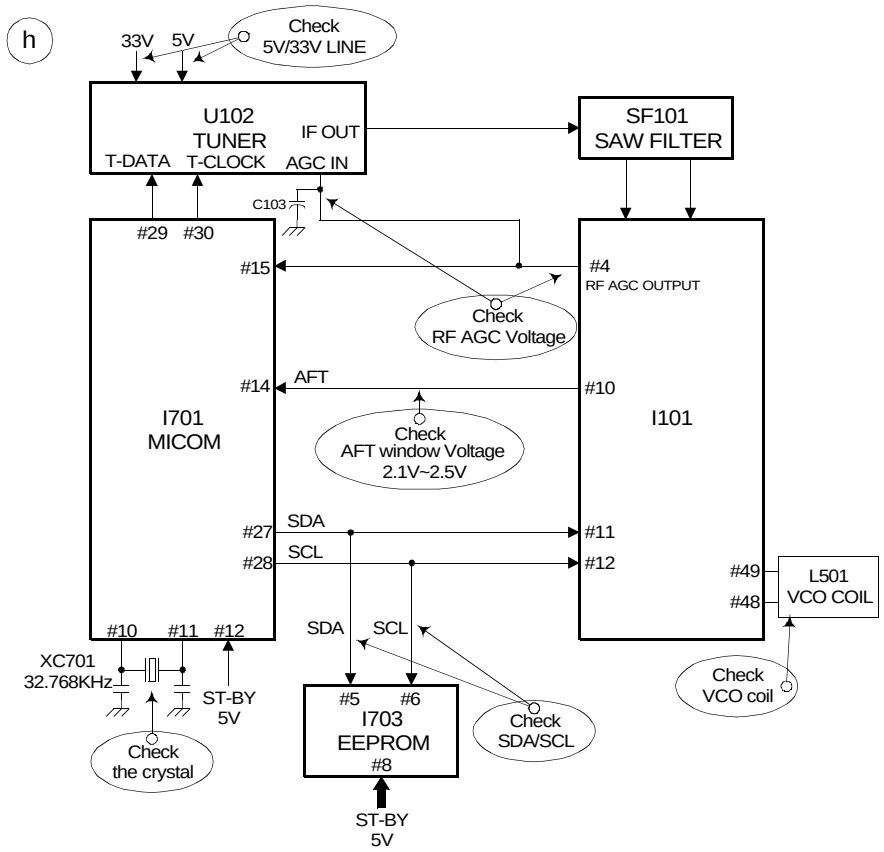
3. NO SOUND

Check audio output signal of I101 #1	NG : Go to the figure ⓔ
	OK : Go to the figure ⓕ

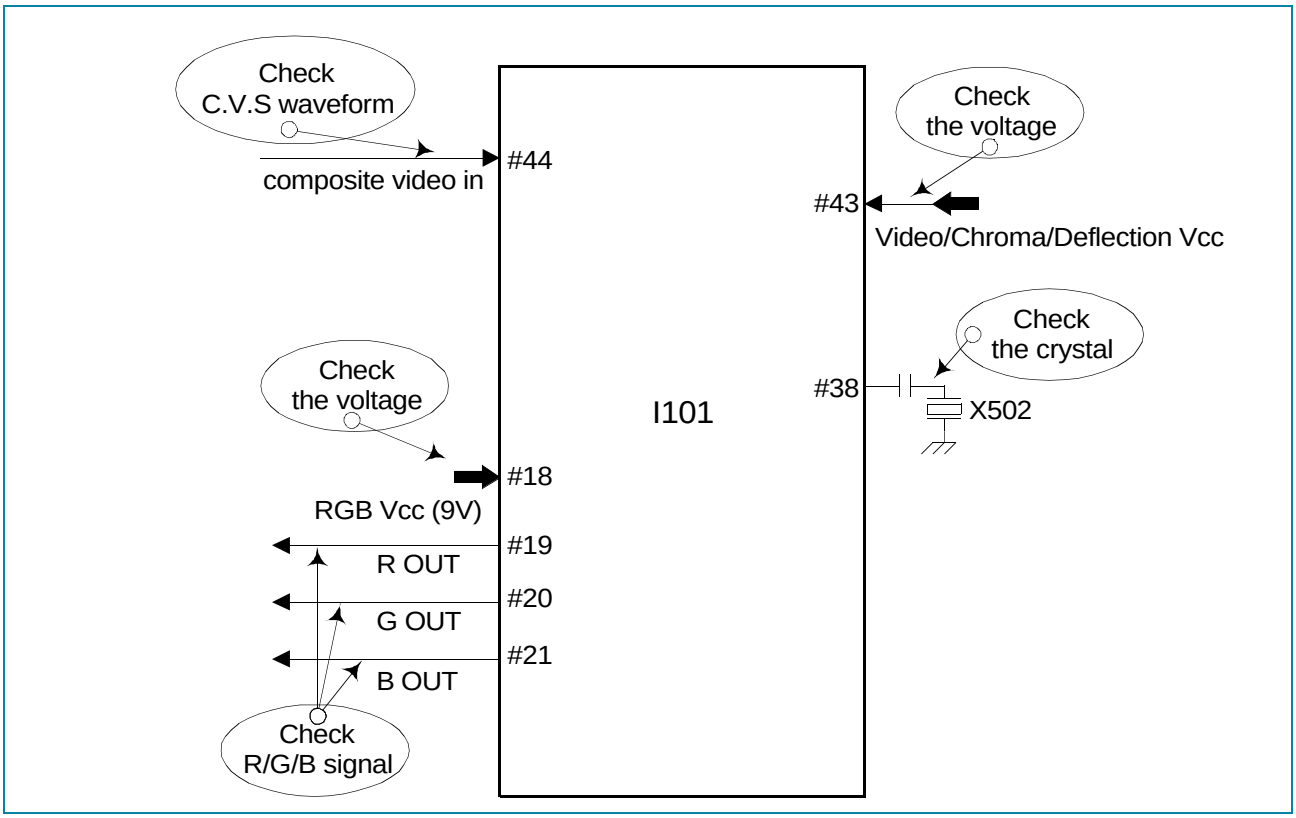


4. CH DON'T STOP

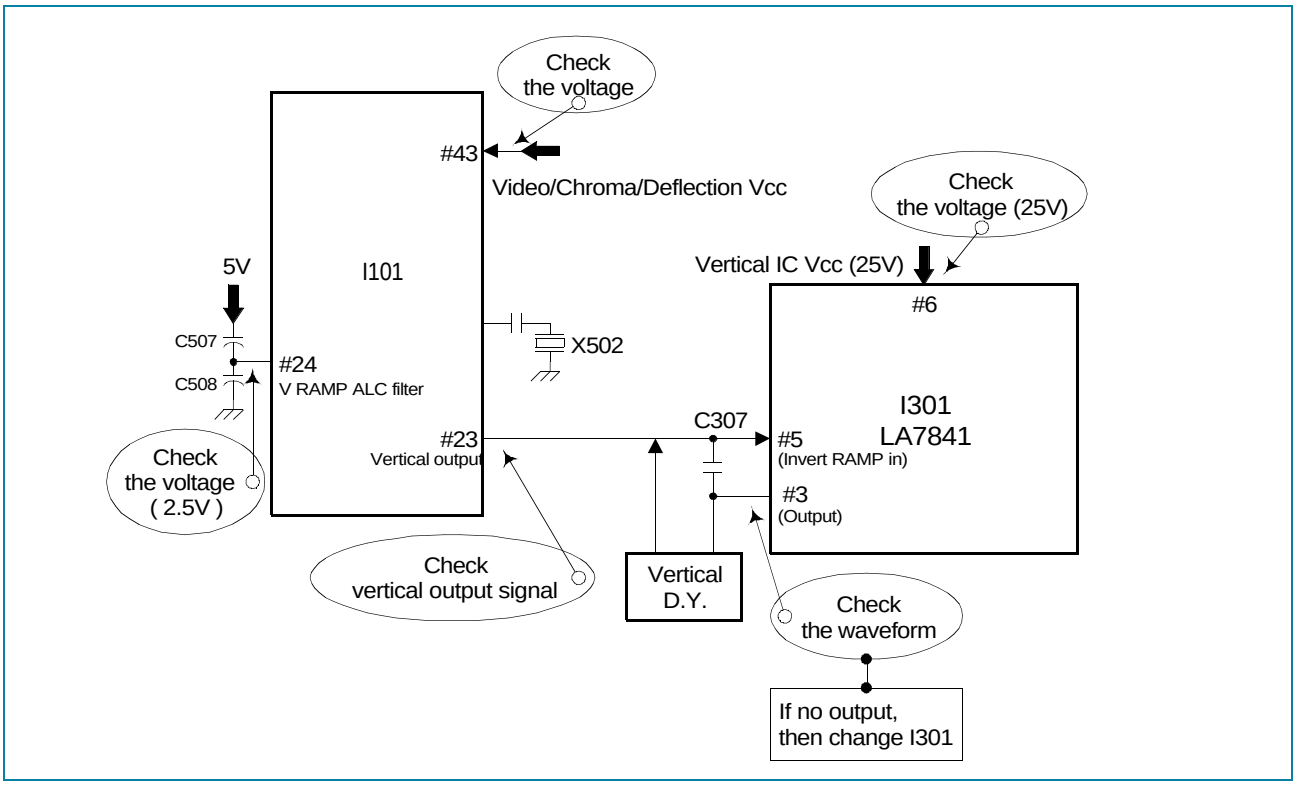
Check the input signal conditions	NG : Loss of signal or weak signal
	OK : Go to the figure ⓖ



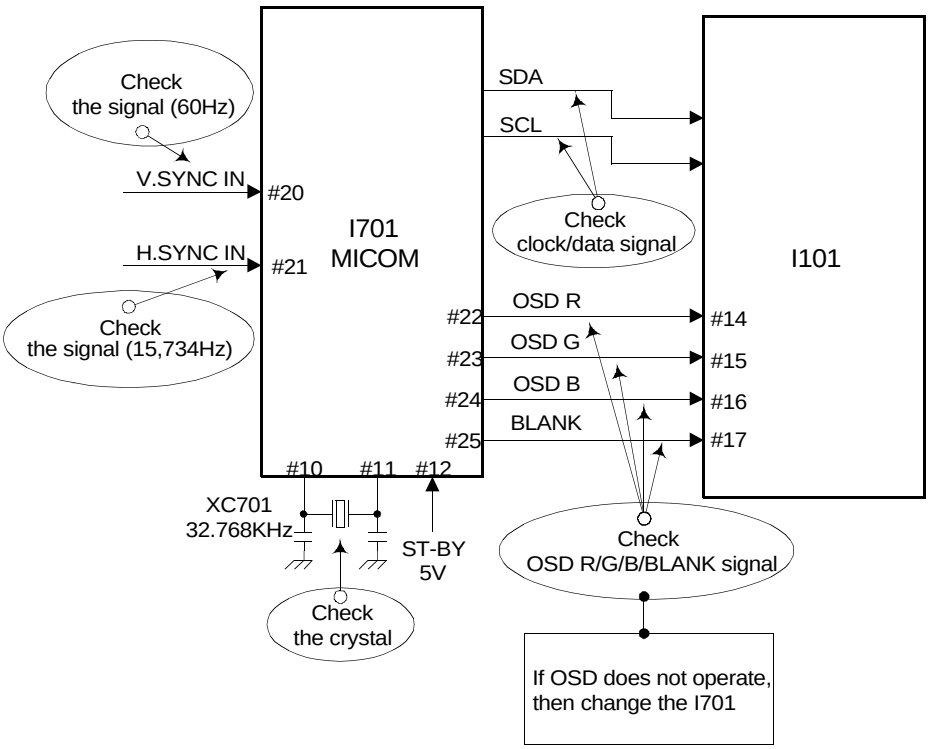
5. NO COLOR



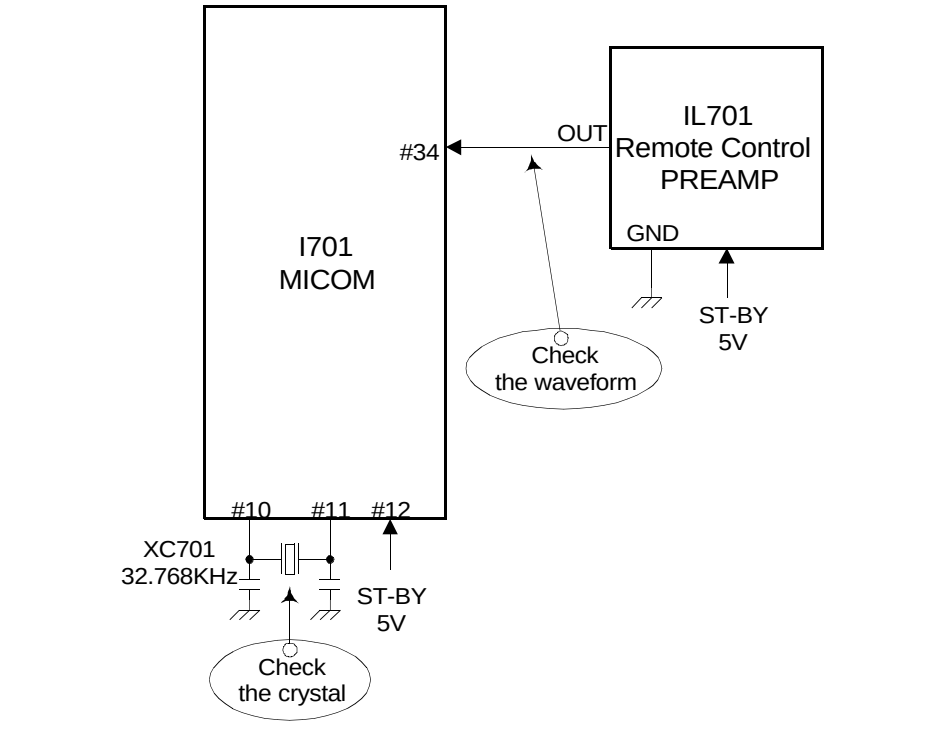
6. NO VERTICAL DEFLECTION



7. NO ON-SCREEN DISPLAY



8. REMOTE CONTROL DOES NOT OPERATE



ELECTRICAL PARTS LIST

✔ **Caution**: In this Service Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information, please refer to PPL(Parts Price List) in Service information Center(http://svc.dwe.co.kr)

CAUTION

"Ⓡ"is a safety part, so it must be used the same part.
"⚠"is a recommenedable part for essential stock.

LOC	PART CODE	PRAT NAME	DESCRIPTION
ZZ100 Ⓡ	48B4025Z11	TRANSMITTER REMOCON	R-25Z11
ZZ110	PTACPWH407	ACCESSORY AS	DTQ-14J4FC
10	4850A02510	ANT ROD	S3BW216B (L=600 MM)
30	4850Q00910	BATTERY	R03/NN
40	4850A00250	TRANS ANT MATCHING	IMT-06
M821	4858213800	BAG INSTRUCTION	L.D.P.E T0.05X250X400
ZZ120	PTBCSHH407	COVER BACK AS	DTQ-14J4FC
M211	4852154200	COVER BACK	FR HIPS BK
M541	4855415800	SPEC PLATE	150ART P/E FILM (C/TV)
ZZ130	PTPKCPH407	PACKING AS	DTQ-14J4FC
10	6520010100	STAPLE PIN	18M/M J D O
M801	4858038600	BOX CARTON	SW-3
M811	4858185301	PAD	EPS 14J3
M821	4858210600	BAG P.E	L.D.P.E T0.03X1000X900
ZZ131 ⚠	58G0000078	COIL DEGAUSSING	DC-1400
ZZ132	48519A4710	CRT GROUND NET	1401S-1015-1P
ZZ140	PTCACAH411	CABINET AS	DTQ-14J4FCA
CRT1Ⓡ⚠	PTRTPWH394	CRT AS	"NTSC 14"" ITC CRT AS"
V01 ⚠	58D0000082	COIL DY	ODY-M1489
V02	2233030001	PAINT LOCK	760G
V03	2TC26019BE	TAPE CLOTH	19X30 BEIGE
V04	2224050026	BOND SILICON	RTV 122 CARTRIDGE
V05	4850PM001-	MAGNET CP	NY-225 (MINI NECK)
V06	48A96R004-	RUBBER WEDGE	HMR 28 SR (|0X54)
V901	48A96314C3	CRT BARE	A34KQV42X
M191	4854944201	BUTTON	ABS BK
M191A	7178301011	SCREW TAPPTITE	TT2 WAS 3X10 MFZN
M201A	4856013300	SCREW CRT FIXING	30X80 BK
M201B	4856215402	WASHER RUBBER	CR T2.0
M211A	7172401612	SCREW TAPPTITE	TT2 TRS 4X16 MFZN BK
M211B	7172401612	SCREW TAPPTITE	TT2 TRS 4X16 MFZN BK
M321	4853214900	BRKT	FR HIPS BK
M551	4855539900	DECO SENSOR	LAXAN
M551A	7178301011	SCREW TAPPTITE	TT2 WAS 3X10 MFZN
M601	4856013301	SCREW CRT FIXING	30X140 YL
M681	4856812001	TIE CABLE	NYLON66 DA100
SP01A	7178301011	SCREW TAPPTITE	TT2 WAS 3X10 MFZN
ZZ200	PTFMSJH411	MASK FRONT AS	DTQ-14J4FCA
M201	4852072401	MASK FRONT	FR HIPS BK (CORE 1B)
ZZ202	PTSPPWH407	SPEAKER AS	DTQ-14J4FC
PA601	4850703S50	CONNECTOR	YH025-03+35098+ULW=200
SP01 Ⓡ	4858314010	SPEAKER	SP-5070F01 3W 8 OHM
ZZ290 Ⓡ	PTMPMSH411	PCB MAIN MANUAL AS	DTQ-14J4FCA
C403	CCYB2H103K	C CERA	500V B 0.01MF K
C404	CMYH3C722H	C MYLAR	1.6KV BUP 7200PF H
C406	CMYE2D514J	C MYLAR	200V PU 0.51MF J
C801	CL1UC3104M	C LINE ACROSS	WORLD AC250V 0.1UF M R.47

LOC	PART CODE	PRAT NAME	DESCRIPTION
C804	CEYN2D331P	C ELECTRO	200V LHS 330MF
C805	CMYU3A472J	C MYLAR	1KV BCP 4700PF J
C880	CH2AEE222M	C CERA AC	2.5KV 2200PF M MX DE1610
C881 Ⓡ	CH2AEE102M	C CERA AC	2.5KV 1000PF M MX DE1310
D801	DD2SB80---	DIODE BRIDGE	D2SB80
F801 Ⓡ⚠	5F1GB4021L	FUSE GLASS TUBE	UL/CSA TL 4A 125V MF51
I101 ⚠	1DCT814B--	IC CHROMA	DCT814B
I301	PTC2SW7101	HEAT SINK ASS`Y	1LA7841--- + 7174300811
I301 ⚠	1LA7841---	IC VERTICAL	LA7841
I301A	4857027101	HEAT SINK	SPCC T1.0+SN
I301B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN
I401	1K1A7805P1	IC REGULATOR	KIA7805API
I601 ⚠	1TDA7267A-	IC AMP	TDA7267A
I701 ⚠	1ZE8632AA3	IC MICOM	ZE863232V-AA3 5M48
I703 ⚠	1AT24C04PC	IC MEMORY	AT24C04-10PC
I801 Ⓡ⚠	4850M04310	MODULE POWER	DPM001T1
I901	PTA3SW1100	HEAT SINK ASS`Y	1TDA6103Q- + 7174300811
I901 ⚠	1TDA6103Q-	IC VIDEO	TDA6103Q
I901A	4857031100	HEAT SINK	A1050P-H24 T2.0
I901B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN
IL701 ⚠	1KRT30----	IC PREAMP	KRT30
JP02	4859109950	JACK PIN BOARD	PH-JB-9710A
L111	58C5580019	COIL CHOKE	TRF-9225 (0.55UH)
L501	58N0000042	COIL VCO	TRF-V008
L801Ⓡ⚠	5PLF24A2--	FILTER LINE	LF-24A2
M681	4856812001	TIE CABLE	NYLON66 DA100
P401	4859240020	CONN WAFER	YFW500-05
P801A	4859242220	CONN WAFER	YFW800-02
PA501	4850708N11	CONNECTOR	BIC-08T-25T+C-20T+ULW=300
PWC1Ⓡ⚠	4859907910	CORD POWER AS	ME301P+TER=1830
Q402 ⚠	T2SD2499--	TR	2SD2499
Q801 Ⓡ⚠	PTL2SW4510	HEAT SINK ASS`Y	T2SK2564-- + 7174300811
1	T2SK2564--	FET	2SK2564
0000A	4857024510	HEAT SINK	AL EX
0000B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN
R801	RX07C229JF	R CEMENT	7W 2.2 0HM J 15MM 4P
R883	DEC7R0M140	POSISTOR	ECPAC7R0M140
RLY1 Ⓡ	5SC0101338	SW RELAY	DQ5D1-O(M)/GJ-SS-105LM
RS801 Ⓡ	DSVC271D14	VARISTOR	SVC271D14A
SCT1 Ⓡ⚠	4859303430	SOCKET CRT	PCS633A
SF101	5PTSF5241P	FILTER SAW	TSF5241P
T401	50D0000022	TRANS DRIVE	HD-15D
T402 Ⓡ⚠	50H0000198	FBT	FSA37012M
T801 Ⓡ	50M3541T1-	TRANS SMPS	TSM-3541T1
U102 Ⓡ⚠	4859719130	TUNER VARACTOR	DT5-NF20F
X701	5XYR03276C	CRYSTAL QUARTZ	C-001R 32.768000KHZ 20PPM
Z501	5PYXT4R5MB	FILTER CERA	XT 4.5MB
ZZ200	PTMPJ2H411	PCB CHIP MOUNT B AS	DTQ-14J4FCA
CC151	HCBK103KCA	C CHIP CERA	50V X7R 0.01MF K 2012

LOC	PART CODE	PRAT NAME	DESCRIPTION
CC152	HCBK103KCA	C CHIP CERA	50V X7R 0.01MF K 2012
CC153	HCBK103KCA	C CHIP CERA	50V X7R 0.01MF K 2012
CC154	3KCA	C CHIP CERA	50V X7R 0.01MF K 2012
CC155	HCBK103KCA	C CHIP CERA	50V X7R 0.01MF K 2012
CC426	HCBK103KCA	C CHIP CERA	50V X7R 0.01MF K 2012
CC528	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012
CC551	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012
CC552	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012
CC556	HCQK809DCA	C CHIP CERA	50V CH 8PF D 2012
CC560	HCBK103KCA	C CHIP CERA	50V X7R 0.01MF K 2012
CC562	HCQK180JCA	C CHIP CERA	50V CH 18PF J 2012
CC567	HCQK181JCA	C CHIP CERA	50V CH 180PF J 2012
CC568	HCBK103KCA	C CHIP CERA	50V X7R 0.01MF K 2012
CC569	HCBK103KCA	C CHIP CERA	50V X7R 0.01MF K 2012
CC570	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012
CC571	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012
CC573	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012
CC575	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012
CC580	HCBK152KCA	C CHIP CERA	50V X7R 1500PF K 2012
CC662	HCBK153KCA	C CHIP CERA	50V X7R 0.015MF K 2012
CC752	HCQK180JCA	C CHIP CERA	50V CH 18PF J 2012
CC753	HCQK180JCA	C CHIP CERA	50V CH 18PF J 2012
CC754	HCBK103KCA	C CHIP CERA	50V X7R 0.01MF K 2012
CC755	HCBK103KCA	C CHIP CERA	50V X7R 0.01MF K 2012
CC756	HCQK221JCA	C CHIP CERA	50V CH 220PF J 2012
CC757	HCBK333KCA	C CHIP CERA	50V X7R 0.033MF K 2012
CC758	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012
CC759	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012
CC760	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012
CC761	HRFT000-CA	R CHIP	1/10 0 OHM 2012
CC766	HRFT000-CA	R CHIP	1/10 0 OHM 2012
CC768	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012
CC780	HCBK103KCA	C CHIP CERA	50V X7R 0.01MF K 2012
CC796	HCBK103KCA	C CHIP CERA	50V X7R 0.01MF K 2012
CC799	HRFT000-CA	R CHIP	1/10 0 OHM 2012
CC801	HCBK103KCA	C CHIP CERA	50V X7R 0.01MF K 2012
CC900	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012
CCA01	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012
JCA02	HRFT000-CA	R CHIP	1/10 0 OHM 2012
RC105	HRFT153JCA	R CHIP	1/10 15K OHM J 2012
RC150	HRFT153JCA	R CHIP	1/10 15K OHM J 2012
RC151	HRFT104JCA	R CHIP	1/10 100K OHM J 2012
RC154	HRFT473JCA	R CHIP	1/10 47K OHM J 2012
RC156	HRFT473JCA	R CHIP	1/10 47K OHM J 2012
RC165	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012
RC351	HRFT682JCA	R CHIP	1/10 6.8K OHM J 2012
RC359	HRFT273JCA	R CHIP	1/10 27K OHM J 2012
RC360	HRFT333JCA	R CHIP	1/10 33K OHM J 2012
RC361	HRFT222JCA	R CHIP	1/10 2.2K OHM J 2012

LOC	PART CODE	PRAT NAME	DESCRIPTION
RC362	HRFT113JCA	R CHIP	1/10 11K OHM J 2012
RC426	HRFT302JCA	R CHIP	1/10 3K OHM J 2012
RC453	HRFT103JCA	R CHIP	1/10 10K OHM J 2012
RC454	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC455	HRFT331JCA	R CHIP	1/10 330 OHM J 2012
RC503	HRFT752JCA	R CHIP	1/10 7.5K OHM J 2012
RC508	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC509	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC510	HRFT561JCA	R CHIP	1/10 560 OHM J 2012
RC512	HRFT000-CA	R CHIP	1/10 0 OHM 2012
RC513	HRFT000-CA	R CHIP	1/10 0 OHM 2012
RC520	HRFT000-CA	R CHIP	1/10 0 OHM 2012
RC525	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC526	HRFT132JCA	R CHIP	1/10 1.3K OHM J 2012
RC530	HRFT561JCA	R CHIP	1/10 560 OHM J 2012
RC531	HRFT561JCA	R CHIP	1/10 560 OHM J 2012
RC533	HRFT390JCA	R CHIP	1/10 39 OHM J 2012
RC554	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC555	HRFT824JCA	R CHIP	1/10 820K OHM J 2012
RC557	HRFT182JCA	R CHIP	1/10 1.8K OHM J 2012
RC558	HRFT103JCA	R CHIP	1/10 10K OHM J 2012
RC559	HRFT331JCA	R CHIP	1/10 330 OHM J 2012
RC561	HRFT561JCA	R CHIP	1/10 560 OHM J 2012
RC562	HRFT824JCA	R CHIP	1/10 820K OHM J 2012
RC565	HRFT123JCA	R CHIP	1/10 12K OHM J 2012
RC566	HRFT123JCA	R CHIP	1/10 12K OHM J 2012
RC567	HRFT103JCA	R CHIP	1/10 10K OHM J 2012
RC568	HRFT472FCA	R CHIP	1/10 4.7K OHM F 2012
RC569	HRFT152JCA	R CHIP	1/10 1.5K OHM J 2012
RC570	HRFT103JCA	R CHIP	1/10 10K OHM J 2012
RC571	HRFT272JCA	R CHIP	1/10 2.7K OHM J 2012
RC572	HRFT223JCA	R CHIP	1/10 22K OHM J 2012
RC573	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC655	HRFT182JCA	R CHIP	1/10 1.8K OHM J 2012
RC656	HRFT471JCA	R CHIP	1/10 470 OHM J 2012
RC703	HRFT101JCA	R CHIP	1/10 100 OHM J 2012
RC704	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC705	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012
RC706	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012
RC707	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC731	HRFT103JCA	R CHIP	1/10 10K OHM J 2012
RC732	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC733	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC734	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC735	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC737	HRFT103JCA	R CHIP	1/10 10K OHM J 2012
RC738	HRFT471JCA	R CHIP	1/10 470 OHM J 2012
RC751	HRFT471JCA	R CHIP	1/10 470 OHM J 2012
RC752	HRFT471JCA	R CHIP	1/10 470 OHM J 2012

LOC	PART CODE	PRAT NAME	DESCRIPTION
RC756	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012
RC759	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012
RC770	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012
RC781	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC782	HRFT331JCA	R CHIP	1/10 330 OHM J 2012
RC784	HRFT514JCA	R CHIP	1/10 510K OHM J 2012
RC786	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC787	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012
RC788	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012
RC790	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012
RC791	HRFT392JCA	R CHIP	1/10 3.9K OHM J 2012
RC792	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC793	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC794	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RC795	HRFT103JCA	R CHIP	1/10 10K OHM J 2012
RC796	HRFT471JCA	R CHIP	1/10 470 OHM J 2012
RC797	HRFT103JCA	R CHIP	1/10 10K OHM J 2012
RC862	HRFT363JCA	R CHIP	1/10 36K OHM J 2012
RC913	HRFT272JCA	R CHIP	1/10 2.7K OHM J 2012
RC914	HRFT272JCA	R CHIP	1/10 2.7K OHM J 2012
RC915	HRFT272JCA	R CHIP	1/10 2.7K OHM J 2012
RC923	HRFT222JCA	R CHIP	1/10 2.2K OHM J 2012
RC924	HRFT222JCA	R CHIP	1/10 2.2K OHM J 2012
RC925	HRFT222JCA	R CHIP	1/10 2.2K OHM J 2012
RCA01	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
RCA02	HRFT104JCA	R CHIP	1/10 100K OHM J 2012
RCA03	HRFT750JCA	R CHIP	1/10 75 OHM J 2012
RCA04	HRFT101JCA	R CHIP	1/10 100 OHM J 2012
RCA05	HRFT224JCA	R CHIP	1/10 220K OHM J 2012
RCA06	HRFT392JCA	R CHIP	1/10 3.9K OHM J 2012
RCA07	HRFT224JCA	R CHIP	1/10 220K OHM J 2012
RCA09	HRFT102JCA	R CHIP	1/10 1K OHM J 2012
ZZ200	PTMPJ0H411	PCB MAIN (RHU) AS	DTQ-14J4FCA
C105	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP
C310	CEXF1E102V	C ELECTRO	25V RSS 1000MF (13X20) TP
C410	CEXF2E100V	C ELECTRO	250V RSS 10MF (10X20) TP
C414	CEXF1V471V	C ELECTRO	35V RSS 470MF (10X20) TP
C415	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP
C510	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP
C514	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP
C602	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP
C605	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP
C812	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP
C813	CBXB3D471K	C CERA SEMI	2KV BL(N) 470PF K (T)
C814	CEXF2C101V	C ELECTRO	160V RSS 100MF (16X25) TP
C820	CEXF2C101V	C ELECTRO	160V RSS 100MF (16X25) TP
C965	CCXB3D102K	C CERA	2KV B 1000PF K (TAPPING)
L800	58Q0000093	COIL DELAY LINE	RS208
ZZ200	PTMPJBH411	PCB MAIN M-10 AS	DTQ-14J4FCA

LOC	PART CODE	PRAT NAME	DESCRIPTION
10	2TM18006BE	TAPE MASKING	6.2X500
P601	485923162S	CONN WAFER	YW025-03 (STICK)
R601	RS01Z688J-	R M-OXIDE FILM	1W 0.68 OHM J
R804	RS02Z278JS	R M-OXIDE FILM	2W 0.27 OHM J SMALL
R814	RS02Z828JS	R M-OXIDE FILM	2W 0.82 OHM J SMALL
ZZ200	PTMPJRH411	PCB MAIN RADIAL AS	DTQ-14J4FCA
C101	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP
C102	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP
C103	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP
C104	CMXB1H333J	C MYLAR	50V EU 0.033MF J (TP)
C106	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP
C107	CEXF1H228V	C ELECTRO	50V RSS 0.22MF (5X11) TP
C301	CMXB1H103J	C MYLAR	50V EU 0.01MF J (TP)
C302	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP
C303	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP
C305	CEXF1H101V	C ELECTRO	50V RSS 100MF (8X11.5) TP
C307	CXSL2H100D	C CERA	500V SL 10PF D (TAPPING)
C308	CMXB1H104J	C MYLAR	50V EU 0.1MF J (TP)
C311	CEXD1H229Q	C ELECTRO	50V RT 2.2MF (6.3X11) TP
C401	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)
C402	CCXB1H471K	C CERA	50V B 470PF K (TAPPING)
C405	CEXF2C109V	C ELECTRO	160V RSS 1MF (6.3X11) TP
C411	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP
C412	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)
C413	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)
C416	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)
C417	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)
C418	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)
C451	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP
C452	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP
C501	CMXL1H105J	C MYLAR	50V MEU 1MF J
C502	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP
C507	CEXF1H228V	C ELECTRO	50V RSS 0.22MF (5X11) TP
C508	CEXF1H228V	C ELECTRO	50V RSS 0.22MF (5X11) TP
C509	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP
C511	CMXB1H333J	C MYLAR	50V EU 0.033MF J (TP)
C512	CEXF1H108V	C ELECTRO	50V RSS 0.1MF (5X11) TP
C513	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP
C515	CEXD1H109F	C ELECTRO	50V RND 1MF (5X11) TP
C516	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP
C517	CMXB1H473J	C MYLAR	50V 0.047MF J (TP)
C518	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP
C519	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP
C520	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP
C524	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP
C525	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP
C601	CMXB1H103J	C MYLAR	50V EU 0.01MF J (TP)
C603	CEXF1H108V	C ELECTRO	50V RSS 0.1MF (5X11) TP
C604	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP

ELECTRICAL PARTS LIST

LOC	PART CODE	PRAT NAME	DESCRIPTION
C701	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP
C702	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP
C703	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP
C704	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP
C705	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP
C706	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP
C707	CMXB1H104J	C MYLAR	50V EU 0.1MF J (TP)
C708	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP
C802 Ⓡ	CCXB2H222K	C CERA	500V B 2200PF K (TAPPING)
C803 Ⓡ	CCXB2H222K	C CERA	500V B 2200PF K (TAPPING)
C806	CCXB3A102K	C CERA	1KV B 1000PF K (TAPPING)
C807	CMXB1H103J	C MYLAR	50V EU 0.01MF J (TP)
C815	CEXF2A100V	C ELECTRO	100V RSS 10MF (6.3X11) TP
C818	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP
C819	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP
C832	CCXB3A471K	C CERA	1KV B 470PF K (T)
C902	CMXL2E104K	C MYLAR	250V MEU 0.1MF K
C905	CMXL1J224J	C MYLAR	63V MEU 0.22MF J (TP)
CA01	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP
F801A	4857415001	CLIP FUSE	PFC5000-0702
F801B	4857415001	CLIP FUSE	PFC5000-0702
L805	58CX430599	COIL CHOKE	AZ-9004Y 940K TP
Q401	TKSC2330Y-	TR	KSC2330Y (TP)
Q403	TKSC945CY-	TR	KSC 945C-Y (TAPPING)
Q601	TKSC945CY-	TR	KSC 945C-Y (TAPPING)
Q701	TKSC945CY-	TR	KSC 945C-Y (TAPPING)
Q702	TKSC945CY-	TR	KSC 945C-Y (TAPPING)
Q703	TKSC945CY-	TR	KSC 945C-Y (TAPPING)
Q704	TKSA733CY-	TR	KSA733CY (TP)
Q804	TKSA1013Y-	TR	KSA1013Y (TP)
Q805	TKTC3205Y-	TR	KTC3205Y (TP)
QV01	TKSC945CY-	TR	KSC 945C-Y (TAPPING)
R301	RN01B471JS	R METAL FILM	1W 470 OHM J SMALL
R302	RN01B471JS	R METAL FILM	1W 470 OHM J SMALL
R303	RN01B129JS	R METAL FILM	1W 1.2 OHM J SMALL
R305	RN01B331JS	R METAL FILM	1W 330 OHM J SMALL
R403	RN01B562JS	R METAL FILM	1W 5.6K OHM J SMALL
R411	RN01B229JS	R METAL FILM	1W 2.2 OHM J SMALL
R412	RN01B369JS	R METAL FILM	1W 3.6 OHM J SMALL
R413	RN01B229JS	R METAL FILM	1W 2.2 OHM J SMALL
R414	RN01B229JS	R METAL FILM	1W 2.2 OHM J SMALL
R418	RN02B150JS	R METAL FILM	2W 15 OHM J SMALL
R420	RN02B620JS	R METAL FILM	2W 62 OHM J SMALL
R817	RN01B301JS	R METAL FILM	1W 300 OHM J SMALL
R913	RN01B124JS	R METAL FILM	1W 120K OHM J SMALL
R914	RN01B124JS	R METAL FILM	1W 120K OHM J SMALL
R915	RN01B124JS	R METAL FILM	1W 120K OHM J SMALL
SW701	5S50101090	SW TACT	THVH472GCA
SW702	5S50101090	SW TACT	THVH472GCA

LOC	PART CODE	PRAT NAME	DESCRIPTION
SW703	5S50101090	SW TACT	THVH472GCA
SW704	5S50101090	SW TACT	THVH472GCA
SW705	5S50101090	SW TACT	THVH472GCA
SW706	5S50101090	SW TACT	THVH472GCA
X502	5XEX3R579C	CRYSTAL QUARTZ	HC-49U 3.579545M (TP)
ZZ200	PTMPJAH411	PCB MAIN AXIAL AS	DTQ-14J4FCA
10	2TM14006LB	TAPE MASKING	3M #232 6.0X2000M
20	2TM10006LB	TAPE MASKING	3M #232-MAP-C 6.2X2000M
A001	4859812091	PCB MAIN	246X246 S1B
D101	DUZ33B----	DIODE ZENER	UZ-33B
D301	D1N4004S--	DIODE	1N4004S
D401 ⚠	D1N4937G--	DIODE	1N4937G (TAPPING)
D405	D1N4937G--	DIODE	1N4937G (TAPPING)
D406	D1N4937G--	DIODE	1N4937G (TAPPING)
D407	D1N4937G--	DIODE	1N4937G (TAPPING)
D408	D1N4937G--	DIODE	1N4937G (TAPPING)
D409	D1N4148---	DIODE	1N4148 (TAPPING)
D501	D1N4148---	DIODE	1N4148 (TAPPING)
D502	D1N4148---	DIODE	1N4148 (TAPPING)
D503	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM
D504	D1N4148---	DIODE	1N4148 (TAPPING)
D505	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM
D701	D1N4148---	DIODE	1N4148 (TAPPING)
D704	DUZ3R9B---	DIODE ZENER	UZ-3.9B
D757	D1N4148---	DIODE	1N4148 (TAPPING)
D807 ⚠	DRGP15J---	DIODE	RGP15J
D808	DRGP15J---	DIODE	RGP15J
D812	DUZ5R6BM--	DIODE ZENER	UZ-5.6BM
D813	DRGP15J---	DIODE	RGP15J
D822	DRZ1155V1-	DIODE ZENER	RZ1155V1
DA01	D1N4148---	DIODE	1N4148 (TAPPING)
J001	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J002	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J003	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J004	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J006	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J007	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J008	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J009	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J010	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J011	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J012	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J013	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J014	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J015	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J016	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J017	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J018	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J019	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING

LOC	PART CODE	PRAT NAME	DESCRIPTION
J020	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J021	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J022	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J023	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J024	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J025	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J027	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J028	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATIN
J029	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J030	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J031	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J032	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J033	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J034	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J035	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J036	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J037	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J039	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J040	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J041	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J042	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J044	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J045	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J047	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J049	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J050	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J051	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J052	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J053	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J054	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J055	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J056	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J057	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J058	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J059	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J060	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J061	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J062	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J066	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J067	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J068	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J069	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J072	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J073	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J074	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
J075	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
JL01	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
L112	5CPZ220K02	COIL PEAKING	22UH K (AXIAL 3.5MM)
L502	5CPZ470K04	COIL PEAKING	47UH 10.5MM K (LAL04TB)

LOC	PART CODE	PRAT NAME	DESCRIPTION
L533	5CPZ150K02	COIL PEAKING	15UH K (AXIAL 3.5MM)
L701	5CPZ220K02	COIL PEAKING	22UH K (AXIAL 3.5MM)
L802	5MC0000100	COIL BEAD	HC-3550
L807	5MC0000100	COIL BEAD	HC-3550
L808	5MC0000100	COIL BEAD	HC-3550
R352	RN-4Z1603F	R METAL FILM	1/4 160K OHM F
R353	RN-4Z1502F	R METAL FILM	1/4 15K OHM F
R401	RD-4Z472J-	R CARBON FILM	1/4 4.7K OHM J
R405	RD-2Z751J-	R CARBON FILM	1/2 750 OHM J
R416	RD-2Z121J-	R CARBON FILM	1/2 120 OHM J
R425	RD-4Z752J-	R CARBON FILM	1/4 7.5K OHM J
R451	RD-4Z153J-	R CARBON FILM	1/4 15K OHM J
R452	RD-4Z113J-	R CARBON FILM	1/4 11K OHM J
R501	RD-2Z151J-	R CARBON FILM	1/2 150 OHM J
R502	RD-2Z151J-	R CARBON FILM	1/2 150 OHM J
R511	RD-4Z121J-	R CARBON FILM	1/4 120 OHM J
R602	RD-2Z271J-	R CARBON FILM	1/2 270 OHM J
R604	RD-4Z622J-	R CARBON FILM	1/4 6.2K OHM J
R605	RD-4Z392J-	R CARBON FILM	1/4 3.9K OHM J
R701	RD-4Z240J-	R CARBON FILM	1/4 24 OHM J
R708	RD-4Z472J-	R CARBON FILM	1/4 4.7K OHM J
R709	RD-4Z152J-	R CARBON FILM	1/4 1.5K OHM J
R712	RD-4Z473J-	R CARBON FILM	1/4 47K OHM J
R736	RD-4Z103J-	R CARBON FILM	1/4 10K OHM J
R743	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J
R744	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J
R746	RD-4Z222J-	R CARBON FILM	1/4 2.2K OHM J
R747	RD-4Z392J-	R CARBON FILM	1/4 3.9K OHM J
R750	RD-4Z472J-	R CARBON FILM	1/4 4.7K OHM J
R777	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J
R780	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J
R785	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J
R789	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J
R790	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J
R799	RD-4Z103J-	R CARBON FILM	1/4 10K OHM J
R802	RD-4Z394J-	R CARBON FILM	1/4 390K OHM J
R803	RD-4Z333J-	R CARBON FILM	1/4 33K OHM J
R805	RD-4Z392J-	R CARBON FILM	1/4 3.9K OHM J
R809	RD-4Z394J-	R CARBON FILM	1/4 390K OHM J
R813	RD-4Z363J-	R CARBON FILM	1/4 36K OHM J
R818	RD-4Z561J-	R CARBON FILM	1/4 560 OHM J
R820	RD-4Z392J-	R CARBON FILM	1/4 3.9K OHM J
R822	RD-4Z363J-	R CARBON FILM	1/4 36K OHM J
R888 Ⓡ	RC-2Z565KP	R CARBON COMP	1/2 5.6M OHM K
R910	RD-2Z152J-	R CARBON FILM	1/2 1.5K OHM J
R911	RD-2Z152J-	R CARBON FILM	1/2 1.5K OHM J
R912	RD-2Z152J-	R CARBON FILM	1/2 1.5K OHM J
RV01	RD-4Z103J-	R CARBON FILM	1/4 10K OHM J

DIFFERENT PARTS LIST

1. 14FCAFC

LOC	PART CODE	PRAT NAME	DESCRIPTION	DTQ-14J4FCA	DTQ-14J4FC
C515	CEXD1H109F	C ELECTRO	50V RND 1MF (5X11) TP	1	0
C524	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	0
C880	CH1BFE222M	C CERA AC	U/C/V AC400V 2200PF	0	1
C880	CH2AEE222M	C CERA AC	2.5KV 2200PF M MX DE1610	1	0
C881	CH1HFE102M	C CERA AC	4.0KV 1000PF E DG	0	1
C881	CH2AEE102M	C CERA AC	2.5KV 1000PF M MX DE1310	1	0
CA01	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	0
CC766	HRFT000-CA	R CHIP	1/10 0 OHM 2012	1	0
CCA01	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	1	0
CCA02	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	0	1
DA01	D1N4148---	DIODE	1N4148 (TAPPING)	1	0
JCA01	HRFT000-CA	R CHIP	1/10 0 OHM 2012	0	1
JCA02	HRFT000-CA	R CHIP	1/10 0 OHM 2012	1	0
JCE01	HRFT000-CA	R CHIP	1/10 0 OHM 2012	0	1
JCV01	HRFT000-CA	R CHIP	1/10 0 OHM 2012	0	1
JP02	4859109950	JACK PIN BOARD	PH-JB-9710A	1	0
M201	4852072400	MASK FRONT	FR HIPS BK (CORE 1A)	0	1
M201	4852072401	MASK FRONT	FR HIPS BK (CORE 1B)	1	0
QV01	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	0
R602	RD-2Z271J-	R CARBON FILM	1/2 270 OHM J	1	0
RCA01	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	1	0
RCA02	HRFT104JCA	R CHIP	1/10 100K OHM J 2012	1	0
RCA03	HRFT750JCA	R CHIP	1/10 75 OHM J 2012	1	0
RCA04	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	1	0
RCA05	HRFT224JCA	R CHIP	1/10 220K OHM J 2012	1	0
RCA06	HRFT392JCA	R CHIP	1/10 3.9K OHM J 2012	1	0
RCA07	HRFT224JCA	R CHIP	1/10 220K OHM J 2012	1	0
RCA09	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	1	0
RV01	RD-4Z103J-	R CARBON FILM	1/4 10K OHM J	1	0
ZZ100	48B4025Z10	TRANSMITTER REMOCON	R-25Z10	0	1
ZZ100	48B4025Z11	TRANSMITTER REMOCON	R-25Z11	1	0

2. 14FCA20FC

LOC	PART CODE	PRAT NAME	DESCRIPTION	DTQ-14J4FCA	DTQ-20J4FC
10	4850A02510	ANT ROD	S3BW216B (L=600 MM)	1	0
40	4850A00250	TRANS ANT MATCHING	IMT-06	1	0
C404	CMYH3C662H	C MYLAR	1.6KV BUP 6600PF H	0	1
C404	CMYH3C722H	C MYLAR	1.6KV BUP 7200PF H	1	0
C406	CMYE2D274J	C MYLAR	200V PU 0.27MF J	0	1
C406	CMYE2D514J	C MYLAR	200V PU 0.51MF J	1	0
C515	CEXD1H109F	C ELECTRO	50V RND 1MF (5X11) TP	1	0
C524	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	0
C880	CH1BFE222M	C CERA AC	U/C/V AC400V 2200PF	0	1
C880	CH2AEE222M	C CERA AC	2.5KV 2200PF M MX DE1610	1	0
C881	CH1HFE102M	C CERA AC	4.0KV 1000PF E DG	0	1
C881	CH2AEE102M	C CERA AC	2.5KV 1000PF M MX DE1310	1	0
CA01	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	0
CC766	HRFT000-CA	R CHIP	1/10 0 OHM 2012	1	0
CCA01	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	1	0
CCA02	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	0	1
CRT1	PTRTPWH394	CRT AS	"NTSC 14"" ITC CRT AS"	1	0
CRT1	PTRTPWJ666	CRT AS	"NTSC 20"" ITC CRT AS "	0	1
DA01	D1N4148---	DIODE	1N4148 (TAPPING)	1	0
JCA01	HRFT000-CA	R CHIP	1/10 0 OHM 2012	0	1
JCA02	HRFT000-CA	R CHIP	1/10 0 OHM 2012	1	0
JCE01	HRFT000-CA	R CHIP	1/10 0 OHM 2012	0	1
JCV01	HRFT000-CA	R CHIP	1/10 0 OHM 2012	0	1
JP02	4859109950	JACK PIN BOARD	PH-JB-9710A	1	0
L401	58H0000019	COIL H-LINEARITY	L-178	0	1
M191	4854940601	BUTTON	ABS BK	0	1
M191	4854944201	BUTTON	ABS BK	1	0
M201	4852069100	MASK FRONT	FR HIPS BK	0	1
M201	4852072401	MASK FRONT	FR HIPS BK (CORE 1B)	1	0
M211	4852154200	COVER BACK	FR HIPS BK	1	0
M211	4852154300	COVER BACK	FR HIPS BK	0	1
M801	4858038600	BOX CARTON	SW-3	1	0
M801	4858044800	BOX CARTON	DW-2	0	1
M811	4858185301	PAD	EPS 14J3	1	0
M811	4858188400	PAD	EPS 20J3	0	1
PA501	4850708N08	CONNECTOR	BIC-08T-25T+C-20T+ULW=400	0	1
PA501	4850708N11	CONNECTOR	BIC-08T-25T+C-20T+ULW=300	1	0
Q402	PTA2SW7200	HEAT SINK ASS`Y	T2SD2499-- + 7174301011	0	1

DIFFERENT PARTS LIST

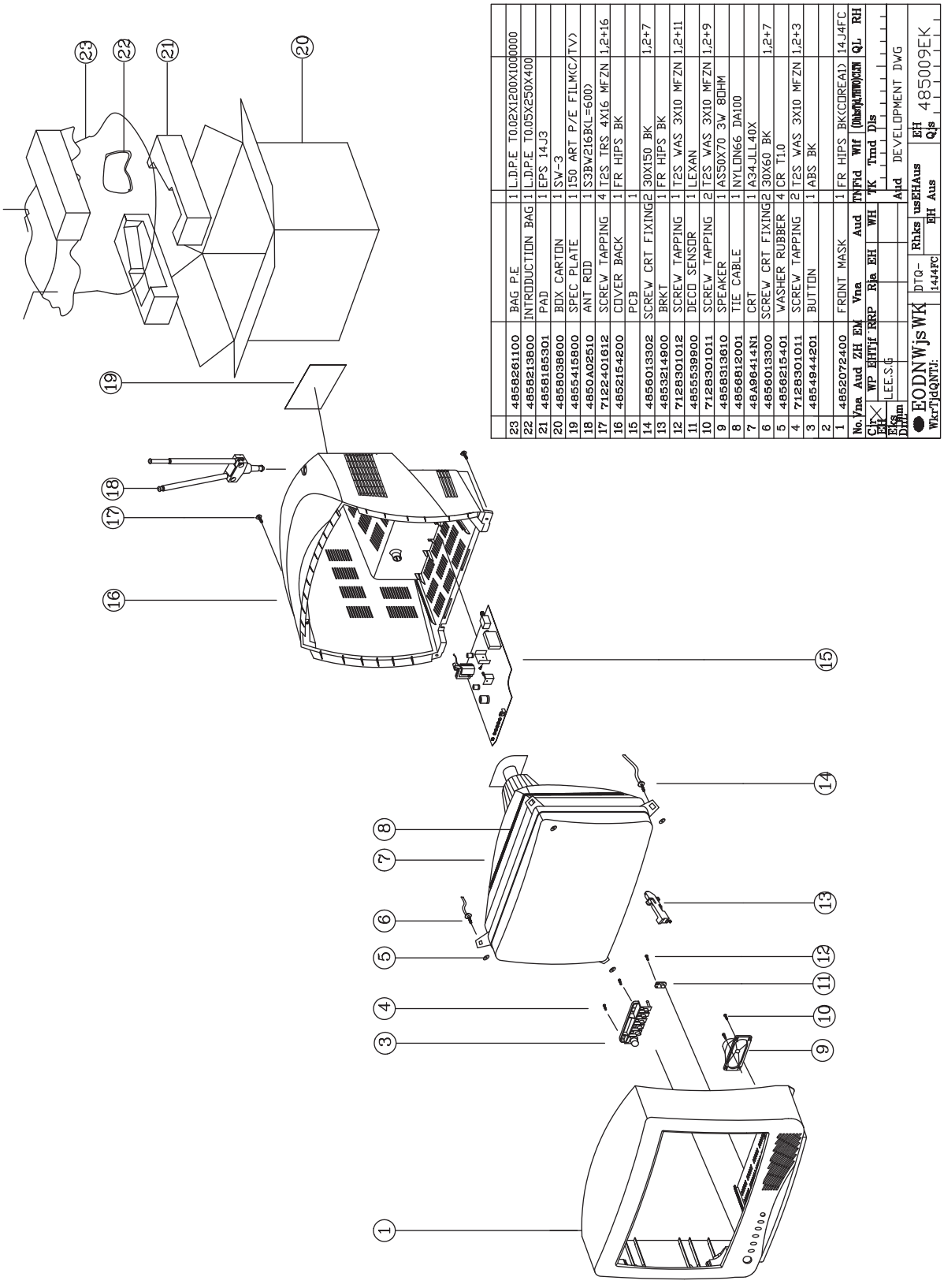
LOC	PART CODE	PRAT NAME	DESCRIPTION	DTQ-14J4FCA	DTQ-20J4FC
QV01	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	0
R301	RN01B471JS	R METAL FILM	1W 470 OHM J SMALL	1	0
R301	RN01B561JS	R METAL FILM	1W 560 OHM J SMALL	0	1
R402	RN01B102JS	R METAL FILM	1W 1K OHM J SMALL	0	1
R412	RN01B369JS	R METAL FILM	1W 3.6 OHM J SMALL	1	0
R412	RN01B479JS	R METAL FILM	1W 4.7 OHM J SMALL	0	1
R452	RD-4Z103J-	R CARBON FILM	1/4 10K OHM J	0	1
R452	RD-4Z113J-	R CARBON FILM	1/4 11K OHM J	1	0
R602	RD-2Z271J-	R CARBON FILM	1/2 270 OHM J	1	0
R883	DEC7R0M140	POSISTOR	ECPAC7R0M140	1	0
R883	DPC3R0M140	POSISTOR	2322 662 96743	0	1
RC503	HRFT562JCA	R CHIP	1/10 5.6K OHM J 2012	0	1
RC503	HRFT752JCA	R CHIP	1/10 7.5K OHM J 2012	1	0
RC862	HRFT273JCA	R CHIP	1/10 27K OHM J 2012	0	1
RC862	HRFT363JCA	R CHIP	1/10 36K OHM J 2012	1	0
RCA01	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	1	0
RCA02	HRFT104JCA	R CHIP	1/10 100K OHM J 2012	1	0
RCA03	HRFT750JCA	R CHIP	1/10 75 OHM J 2012	1	0
RCA04	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	1	0
RCA05	HRFT224JCA	R CHIP	1/10 220K OHM J 2012	1	0
RCA06	HRFT392JCA	R CHIP	1/10 3.9K OHM J 2012	1	0
RCA07	HRFT224JCA	R CHIP	1/10 220K OHM J 2012	1	0
RCA09	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	1	0
RV01	RD-4Z103J-	R CARBON FILM	1/4 10K OHM J	1	0
SP01A	7178301011	SCREW TAPPTITE	TT2 WAS 3X10 MFZN	2	0
SP01A	7178301212	SCREW TAPPTITE	TT2 WAS 3X12 MFZN BK	0	4
V01	58D0000082	COIL DY	ODY-M1489	1	0
V01	58D0000083	COIL DY	ODY-M2050	0	1
V901	48A96314C3	CRT BARE	A34KQV42X	1	0
V901	48A96420N1	CRT BARE	A48JLL40X(W)	0	1
ZZ100	48B4025Z10	TRANSMITTER REMOCON	R-25Z10	0	1
ZZ100	48B4025Z11	TRANSMITTER REMOCON	R-25Z11	1	0
ZZ131	58G0000078	COIL DEGAUSSING	DC-1400	1	0
ZZ131	58G0000141	COIL DEGAUSSING	DC-20S1	0	1
ZZ132	48519A4710	CRT GROUND NET	1401S-1015-1P	1	0
ZZ132	48519A5110	CRT GROUND NET	2001S-1015-1P	0	1

3. 14FCAFCC

LOC	PART CODE	PRAT NAME	DESCRIPTION	DTQ-14J4FCA	DTQ-14J4FCC
C515	CEXD1H109F	C ELECTRO	50V RND 1MF (5X11) TP	1	0
C524	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	0
CA01	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	0
CC766	HRFT000-CA	R CHIP	1/10 0 OHM 2012	1	0
CCA01	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	1	0
CCA02	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	0	1
DA01	D1N4148---	DIODE	1N4148 (TAPPING)	1	0
IL701	1KRT30----	IC PREAMP	KRT30	1	0
IL701	4859231620	CONN WAFER	YW025-03	0	1
JCA01	HRFT000-CA	R CHIP	1/10 0 OHM 2012	0	1
JCA02	HRFT000-CA	R CHIP	1/10 0 OHM 2012	1	0
JCV01	HRFT000-CA	R CHIP	1/10 0 OHM 2012	0	1
JP02	4859109950	JACK PIN BOARD	PH-JB-9710A	1	0
JP02	4859110550	JACK PIN BOARD	YS01-9901	0	1
M201	4852072401	MASK FRONT	FR HIPS BK (CORE 1B)	1	0
M201	4852072402	MASK FRONT	PC CL	0	1
M211	4852154200	COVER BACK	FR HIPS BK	1	0
M211	4852154202	COVER BACK	PC CL	0	1
M551	4855539900	DECO SENSOR	LAXAN	1	0
M551A	7178301011	SCREW TAPPTITE	TT2 WAS 3X10 MFZN	1	0
QV01	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	0
RC799	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	0	1
RCA01	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	1	0
RCA02	HRFT104JCA	R CHIP	1/10 100K OHM J 2012	1	0
RCA03	HRFT750JCA	R CHIP	1/10 75 OHM J 2012	1	0
RCA04	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	1	0
RCA05	HRFT224JCA	R CHIP	1/10 220K OHM J 2012	1	0
RCA06	HRFT392JCA	R CHIP	1/10 3.9K OHM J 2012	1	0
RCA07	HRFT224JCA	R CHIP	1/10 220K OHM J 2012	1	0
RCA09	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	1	0
RV01	RD-4Z103J-	R CARBON FILM	1/4 10K OHM J	1	0
ZZ100	48B4025Z11	TRANSMITTER REMOCON	R-25Z11	1	0

EXPLODED VIEW

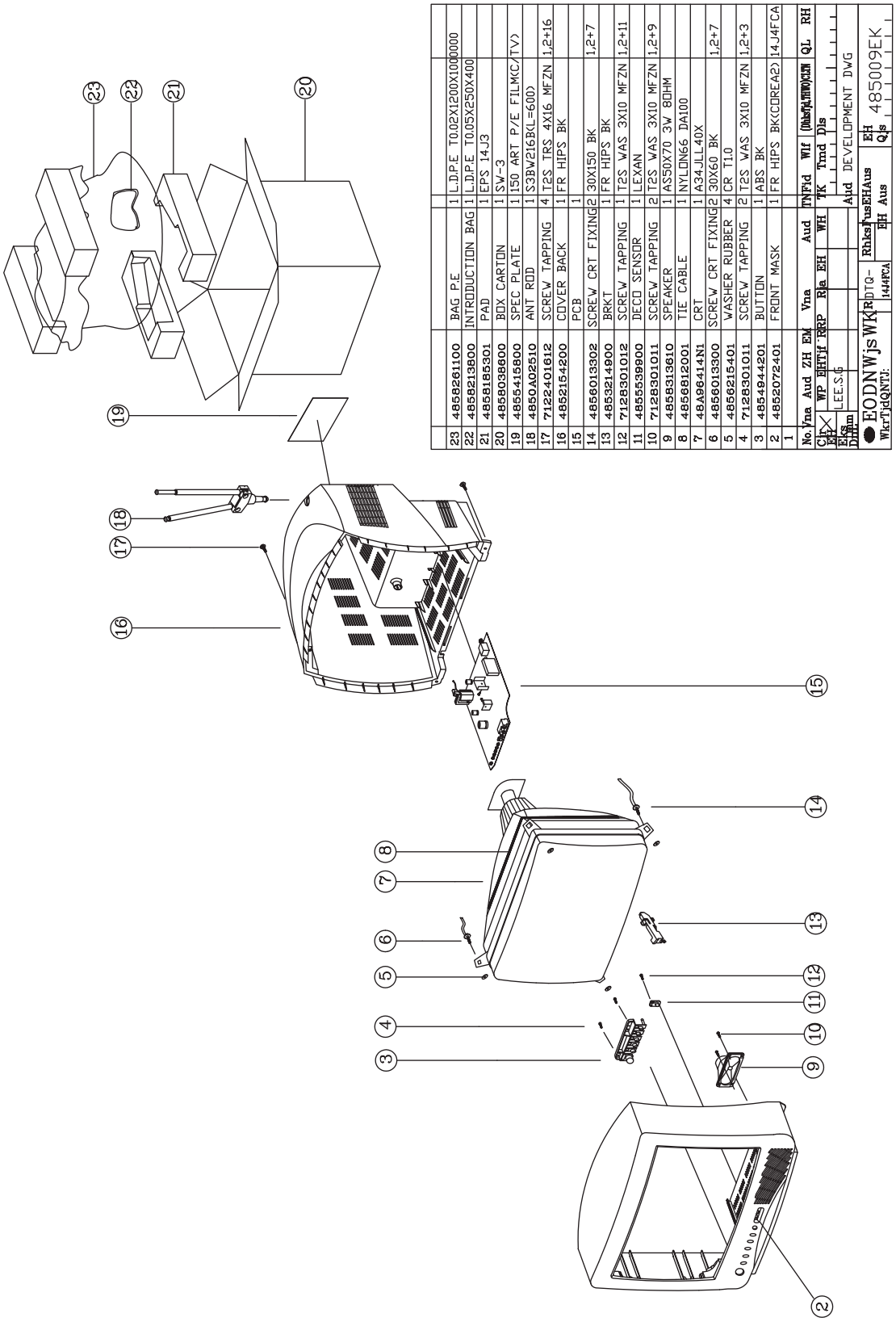
1. DTQ-14J4FC



23	4858261100	BAG P.E	1	L.D.P.E T0.02X1200X1000000		
22	4858213800	INTRODUCTION BAG	1	L.D.P.E T0.05X250X400		
21	4858185301	PAD	1	EPS 14J3		
20	4858038600	BOX CARTON	1	SW-3		
19	4855415800	SPEC PLATE	1	150 ART P/E FILM(C/TV)		
18	4850A02510	ANT ROD	1	S3BW216BL=600)		
17	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN	1,2+16	
16	4852154200	COVER BACK	1	FR HIPS BK		
15		PCB	1			
14	4856013302	SCREW CRT FIXING	2	30X150 BK	1,2+7	
13	4853214900	BRKT	1	FR HIPS BK		
12	7128301012	SCREW TAPPING	1	T2S WAS 3X10 MFZN	1,2+11	
11	4855539900	DECO SENSOR	1	LEXAN		
10	7128301011	SCREW TAPPING	2	T2S WAS 3X10 MFZN	1,2+9	
9	4858313610	SPEAKER	1	AS50X70 3W 8OHM		
8	4856812001	TIE CABLE	1	NYLON66 DA100		
7	48A96414N1	CRT	1	A34JLL40X		
6	4856013300	SCREW CRT FIXING	2	30X60 BK	1,2+7	
5	4856215401	WASHER RUBBER	4	CR T1.0		
4	7128301011	SCREW TAPPING	2	T2S WAS 3X10 MFZN	1,2+3	
3	4854944201	BUTTON	1	ABS BK		
2						
1	4852072400	FRONT MASK	1	FR HIPS BK(CREAM)	14J4FC	

No. Vna Aud ZH EM Vna Aud TNFid Wif QL RH
WP EHTif RRP Rka EH WH TK Tmd Dis
LEE.S.G Aud DEVELOPMENT DWG
EODNWjsWK DTQ-1444FC Rhks usEHAus EH Aus EH Qjs 485009EK

2. DTQ-14J4FCA

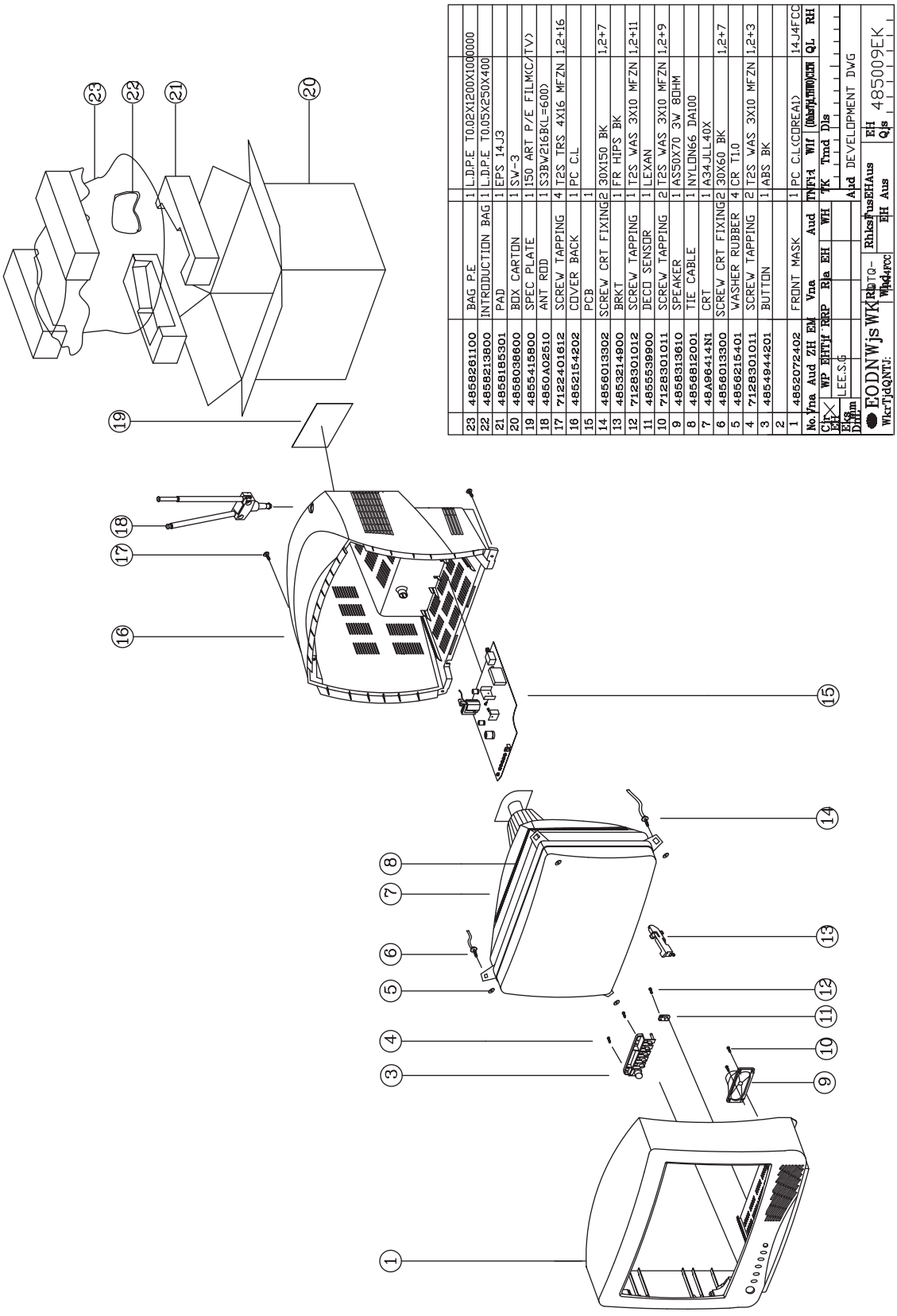


No.	Vna	Aud	ZH	EM	Vna	Aud	TNPid	Wif	(Nas	QL	RH
CIR			WP	BETTI	TRRP	Rla	EH	WH	TK	Tmd	Dis
BH											
ELS			LEE.S.G								
DIM									Aid	DEVELOPMENT DWG	

23	4858261100	BAG P.E	1	L.D.P.E T0.02X1200X1000000							
22	4858213800	INTRDUCTION BAG	1	L.D.P.E T0.05X250X400							
21	4858185301	PAD	1	EPS 14J3							
20	4858038600	BOX CARTON	1	SW-3							
19	4855415800	SPEC PLATE	1	150 ART P/E FILM(C/TV)							
18	4850A02510	ANT ROD	1	S3BW216B(L=600)							
17	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN	1,2+16						
16	4852154200	COVER BACK	1	FR HIPS BK							
15		PCB	1								
14	4856013302	SCREW CRT FIXING	2	30X150 BK	1,2+7						
13	4853214900	BRKT	1	FR HIPS BK							
12	7128301012	SCREW TAPPING	1	T2S WAS 3X10 MFZN	1,2+11						
11	4855539900	DECO SENSOR	1	LEXAN							
10	7128301011	SCREW TAPPING	2	T2S WAS 3X10 MFZN	1,2+9						
9	4858313610	SPEAKER	1	AS50X70 3W 8OHM							
8	4856812001	TIE CABLE	1	NYLON66 DA100							
7	48A96414N1	CRT	1	A34JLL40X							
6	4856013300	SCREW CRT FIXING	2	30X60 BK	1,2+7						
5	4856215401	WASHER RUBBER	4	CR T1.0							
4	7128301011	SCREW TAPPING	2	T2S WAS 3X10 MFZN	1,2+3						
3	4854944201	BUTTON	1	ABS BK							
2	4852072401	FRONT MASK	1	FR HIPS BK(CDREA2)	14J4FCA						
1											

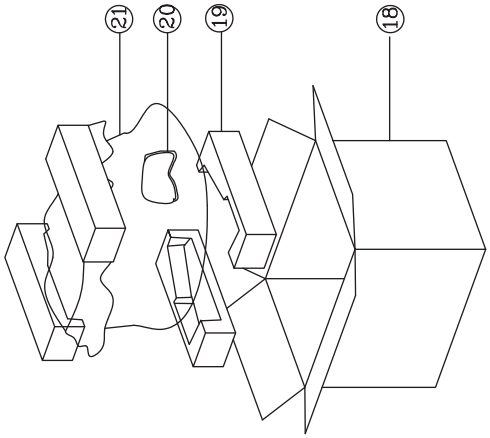
● EODNWjs WK	RDTQ-	RhksTusEHAus	EH	485009EK							
WkrTjdQNTS:	14J4FCA	EH Aus	QJs								

3. DTQ-14J4FCC



No.				
23	4858281100	BAG P.E	1	L.D.P.E T0.02X1200X1000000
22	4858213800	INTRODUCTION BAG	1	L.D.P.E T0.05X250X400
21	4858185301	PAD	1	EPS 14J3
20	4858038600	BOX CARTON	1	SW-3
19	4855415800	SPEC PLATE	1	150 ART P/E FILM(C/TV)
18	4850A02510	ANT ROD	1	S3BW216BKL=600)
17	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN 1,2+16
16	4852154202	COVER BACK	1	PC C.L
15		PCB	1	
14	4856013302	SCREW CRT FIXING	2	30X150 BK 1,2+7
13	4853214900	BRKT	1	FR HIPS BK
12	7128301012	SCREW TAPPING	1	T2S WAS 3X10 MFZN 1,2+11
11	4855539900	DECO SENSOR	1	LEXAN
10	7128301011	SCREW TAPPING	2	T2S WAS 3X10 MFZN 1,2+9
9	4858313610	SPEAKER	1	AS50X70 3W 8OHM
8	4856812001	TIE CABLE	1	NYLON66 DA100
7	48A96414N1	CRT	1	A34JLL40X
6	4856013300	SCREW CRT FIXING	2	30X60 BK 1,2+7
5	4856215401	WASHER RUBBER	4	CR T1.0
4	7128301011	SCREW TAPPING	2	T2S WAS 3X10 MFZN 1,2+3
3	4854944201	BUTTON	1	ABS BK
2				
1	4852072402	FRONT MASK	1	PC C.L(CDREA1) 14J4FCC

4. DTQ-20J4FC



No.	Vna	Aud	ZH	EM	WP	EH	TH	RRP	Rja	EH	WH	Aud	TK	Tmd	Dis	Aud
23																
22																
21	4858261100	BAG P.E	1	L.D.P.E T0.02X1200X1000000												
20	4858213800	INTRODUCTION BAG	1	L.D.P.E T0.05X250X400												
19	4858188400	PAD	1	EPS 20J3												
18	4858044800	BOX CARTON	1	SW-2												
17	4855415800	SPEC PLATE	1	150 ART P/E FILM(C/TV)												
16	4850A02510	ANT ROD	1	S3BW216BL=600)												
15	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN 1+13												
14	4852154300	COVER BACK	1	FR HIPS BK												
13		PCB	1													
12	4856013302	SCREW CRT FIXING	2	30X150 BK	1+9											
11	7128301011	SCREW TAPPING	1	T2S WAS 3X10 MFZN 1+9												
10	4855540301	DECO SENSOR	1	LEXAN												
9	7128301011	SCREW TAPPING	2	T2S WAS 3X10 MFZN 1+7												
8	4858J13610	SPEAKER	1	ASS0X70 3W 8OHM												
7	4856812001	TIE CABLE	1	NYLON66 DA100												
6	48A98420N1	CRT	1	A48JLL40X(W)												
5	4856013300	SCREW CRT FIXING	2	30X60 BK	1+6											
4	4856215401	WASHER RUBBER	4	CR T1.0												
3	7128301011	SCREW TAPPING	2	T2S WAS 3X10 MFZN 1+2												
2	4854940601	BUTTON	1	ABS BK												
1	4852069100	FRONT MASK	1	FR HIPS BK												

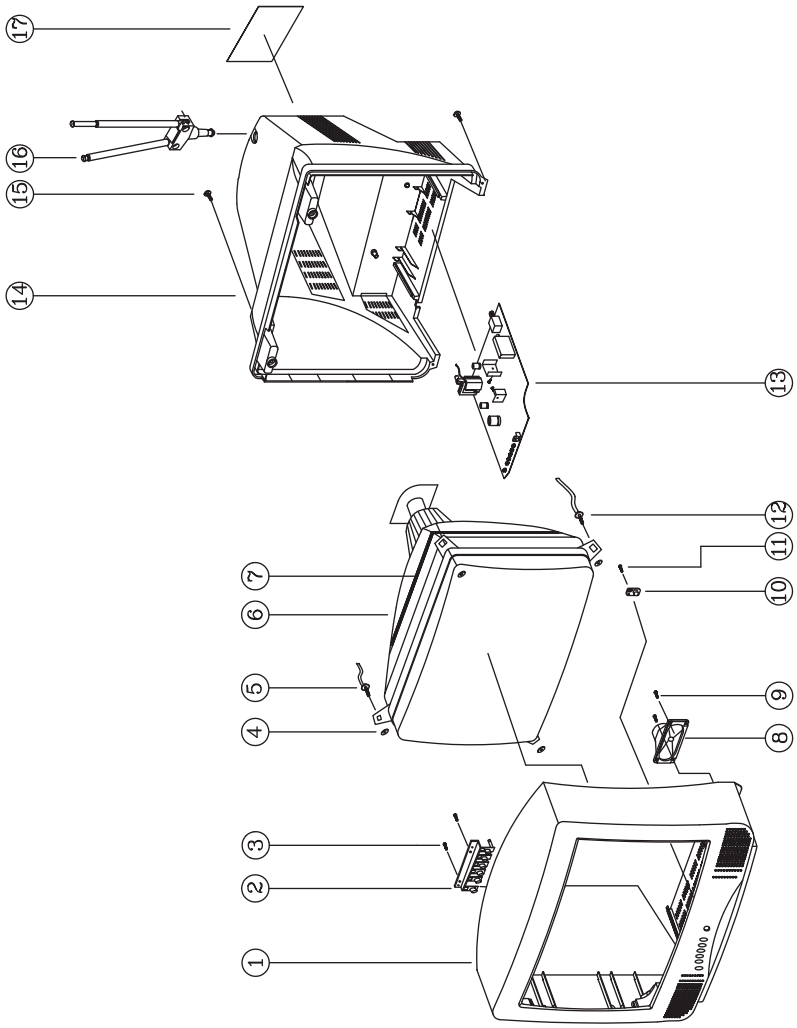
CHK
EH
EKS
Dim

EODNWjs WK RL DTQ 20J4FC
WarTjdQNTi:

Rhks TusE.HAus EH Aus
Aud

DEVELOPMENT DWG

EH 485009EL
Qjs



SCHEMATIC DIAGRAM
CN-001A/CM-003)
(T-30 MODEL)

North America(AC 120V Only)
:DTQ-14P2FC/20P2FC
:DTQ-14P3FC/20P3FC
:DTQ-14V5FC
:DTQ-20V4FC
:U.S.A / CANADA

Middle America(AC
:DTQ-14V1FS/20V1FS
:DTQ-14V5FS
:DTQ-20V4FS
:DTQ-14U1FS/20U1FS
:MEXICO/PANAMA etc.

South America(AC
:DTH-14V1FS/20V1FS/21V1FS
:DTH-14V3FS/20V3FS/21V3FS
:DTH-14U1FS/20U1FS/21U1FS
:DTH-14V4FS/20V4FS/21V4FS
:DTH-14V5FS/20V5FS
:CHILE/PERU

1. CAUTION

⚠ SYMBOL MARKED PARTS IN THE SCHEMATIC DIAGRAM DESIGNATE THE COMPONENTS WHICH HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY AND SHOULD BE REPLACED ONLY WITH TYPES INDENTICAL TO THOSE IN ORIGINAL CIRCUIT OR SPECIFIED IN THE PARTS LIST.
DO NOT DEGRADE THE SAFETY OF THE RECEIVER THROUGH IMPROPER SERVICING.

WARING :

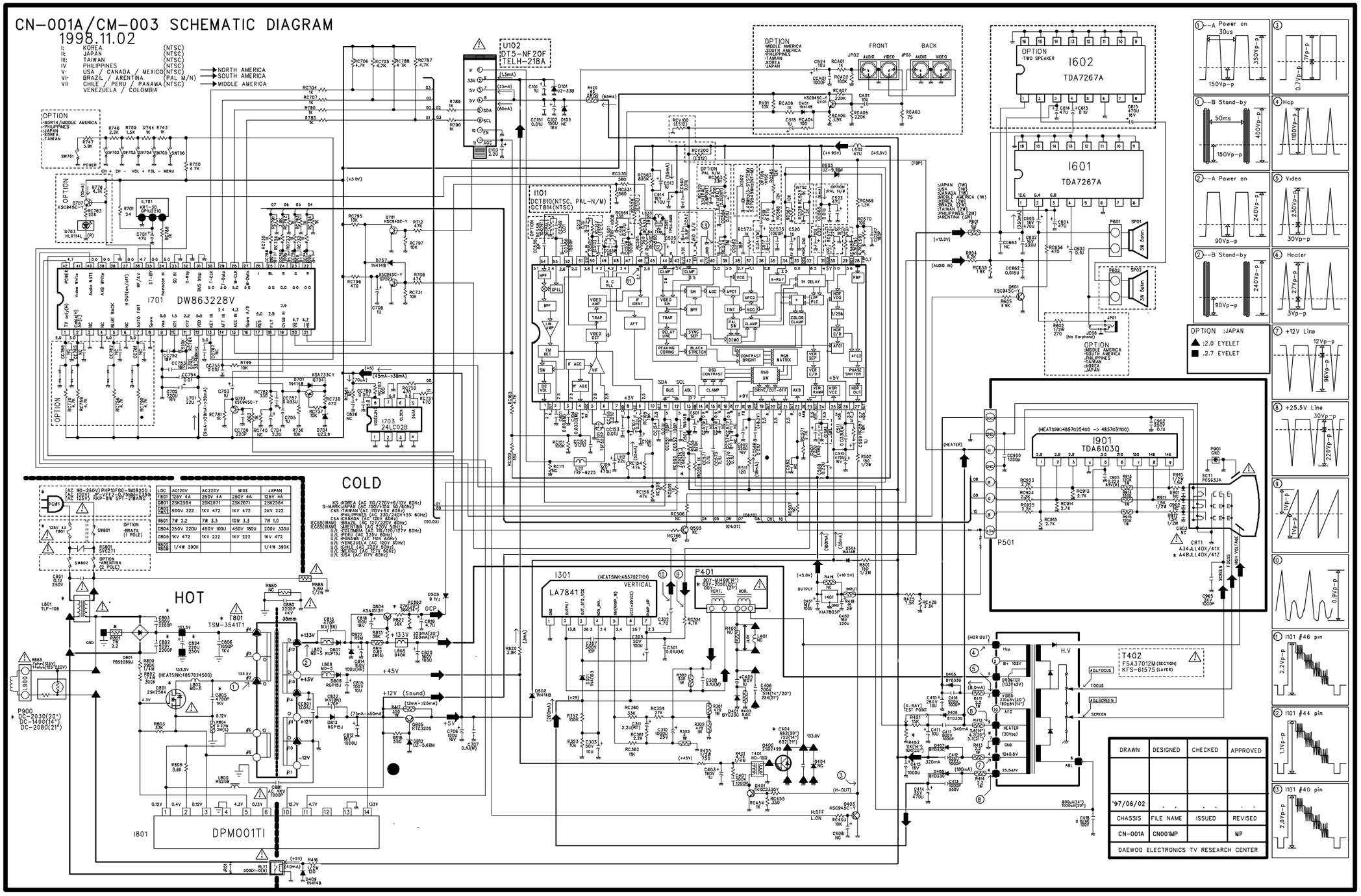
BEFORE SERVICING THIS CHASSIS,READ THE "X-RAY RADIATION PRECAUTION " "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" IN THE SERVICE MANUAL

CAUTION TO THE SERVICE TECHNICIANS :

BEFORE RETURNING THE RECEIVER TO THE CUSTOMER APPROPRIATE LEAKAGE CURRENT OR RESISTANCE MEASUREMENT SHOULD BE CONDUCTED TO DETERMINE THAT EXPOSED PARTS ARE PROPERLY INSULATED FROM THE SUPPLY CIRCUIT.

NOTE :

1. RESISTANCE IS SHOWN IN OHMS. K=1,000 M=1,000,000
2. UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITOR VALUES LESS THAN 1 ARE EXPRESSED IN uF AND THE VALUES MORE THAN 1 IN pF.
3. VOLTAGES READ WITH "V.T.V.M" FROM POINT INDICATE TO CHASSIS GROUND USING A COLOR BAR SIGNAL WITH ALL CONTROLS AT NORMAL LINE VOLTAGE 120 VOLTS AC.
   VOLTAGE READINGS SHOWN ARE NORMAL VALUES AND MAY VARY +20V EXCEPT H.V.
4. IN CASE OF 19" RECEIVER THE COMPONENT WITH THE MARK ★ SHOULD BE USED ONLY.
5. THE CIRCUIT DIAGRAM IS A STANDARD ONE. CIRCUITS PRINTED MAY BE SUBJECT TO CHANGE FOR PRODUCT IMPROVEMENT WITHOUT PRIOR NOTICE



DAEWOO

DAEWOO ELECTRONICS CO., LTD

686, AHYEON-DONG MAPO-GU
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CABLE : "DAEWOOELEC"
E-mail :djkoo@web.dwe.co.kr
TEL : 82-2-360-7806
FAX : 82-2-360-7877